



गेल (इंडिया) लिमिटेड

(भारत सरकार का उपक्रम - महारत्न कंपनी)

GAIL (India) Limited

(A Govt. of India Undertaking - A Maharatna Company)

गेल जुबली टॉवर,
बी - 35 एवं 36, सेक्टर - 1, नोएडा - 201301
जिला गौतम बुद्ध नगर (यू.पी.), इंडिया

GAIL JUBILEE TOWER,
B - 35 & 36, SECTOR - 1, NOIDA - 201301
DISTT GAUTAM BUDH NAGAR (UP), INDIA

फोन/PHONE : +91-120-2446400, 4862400
फैक्स/FAX : +91-011-26185941

LETTER OF ACCEPTANCE

To
MANNU LAL & SONS
PAHARGANJ
8978, DESH BANDHU GUPTA ROAD,
PAHARGANJ
NEW DELHI-110055
Delhi, India
Tele No : 011-32583197

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
Dated : 28.02.2023

RFQ No. & Date : 3300096112 Dt. 21.02.2023
Your offer/Qtn.No. : .
Qtn. Dt. : 01.02.2023
E Tender No. : NIL
Vendor Type : MSE-SMALL-OT
Vendor GSTN No : 07AAAFM7256N1ZV

Kind Attn : AMIT GUPTA

Name of Work : WORKS CONTRACT AGAINST MODIFICATION & RENOVATION OF NGMC AT 3RD FLOOR OF JUBILEE TOWER, GAIL NOIDA.

Dear Sir/Madam

With reference to your Offer against our RFQ and all subsequent correspondences (if any) till date and in continuation of our Fax/Letter of Intent (if any) we are pleased to award the subject works highlighting the following salient features:

Scope of Work : Scope of work under this contract shall be as detailed in enclosed document.

Price Basis:

ITEM	1	Civil	INR	13,534,695.18
ITEM	2	Fire System	INR	240,956.00
ITEM	3	Furniture	INR	3,034,252.00
ITEM	4	LAN Networking	INR	669,237.00
ITEM	5	Fire Alarm System & PA	INR	342,141.00
ITEM	6	AV System in Meeting Room	INR	1,696,545.00
ITEM	7	Control Room Interior	INR	29,392,041.80
ITEM	8	HVAC	INR	3,979,160.60
ITEM	9	AV System in Control Room	INR	3,554,750.00
ITEM	10	Electrical	INR	2,537,997.10

The total order value for the contract shall be Rs. 5,89,81,775.68 including GST@18% and Rs. 4,99,84,555.66 excl. GST

पंजीकृत कार्यालय :

गेल भवन, 16 भीकाएजी कामा प्लेस

नई दिल्ली-110066, इंडिया

REGD. OFFICE :

GAIL BHAWAN, 16 BHIKAJI CAMA PLACE

NEW DELHI-110066, INDIA

सीआईएन/CIN

L40200DL1984GOI018976

Page: 1 of 54
Website : www.gailonline.com

Vendor Code: 101012787
MANNU LAL & SONS

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
LOA Date : 28.02.2023

Schedule of Rates:
AS ATTACHED

Abnormally High Rated Items :
NIL

Duration of Contract/Completion Schedule :

The duration of contract/scheduled period of completion of the work in all respect under the subject contract shall be 16 Weeks from the date of issue of FOI.i.e. on or before 21.06.2023.

You are requested to contact the EIC to start the work.

Performance Bank Guarantee:

Total CPBG value applicable for this contract is Rs. 14,99,537.00/- and valid upto 21.09.2024

CPBG shall be valid upto 3 months beyond total contract period and DLP (12 months).

The claim period shall be valid upto 3 months beyond the total CPBG validity. i.e. 21.12.2024

CPBG/SD/CPS shall be submitted within 30 days from the date of Award/FOA. In the event of delay of submission of the same then, a penal interest of Marginal Cost of Fund based Lending Rate (MCLR) for one year charged by SBI (applicable on due date of submission of CPBG/SD i.e. 30th day after issuance of FOA/Notification of award) plus 4.0% p.a (on CPBG/SD amount) shall be charged for delay beyond 30 days i.e. from 31st days after issuance of FOA/Award.

Contract Agreement:

Contractor / Service Provider is required to execute Contract Agreement within 30 days from issuance of FOA, with GAIL on Non Judicial Stamp paper as per the proforma/format provided along with this LOA.

Payment Terms:

Payment against RA Bills shall be made within 15 days after verification of all details/documents provided by the Contractor.

For details, Please refer to SCC clause-13.

Paying Authority:

HOD (F&A)
GAIL (India) Limited
Jubilee Tower
B-35 & 36, Sector-1
Noida 201301

PAN Particulars:

GAIL (India) Ltd PAN No. AAACG1209J

"As per CBDT Notification No. 95/2015 dated 30.12.2015, mentioning of PAN no. is mandatory for procurement of goods / services/works/consultancy services exceeding Rs. 2 Lacs per transaction.

Accordingly, supplier/ contractor/ service provider/ consultant should mention their PAN no. in their invoice/ bill for any transaction exceeding Rs. 2 lakhs. As provided in the notification, in case supplier/ contractor/ service provider/ consultant do not have PAN no., they have to submit declaration in Form 60 along with invoice/ bill for each transaction. Payment of supplier/ contractor / service provider/ consultant shall be processed only after fulfilment of above requirement".

GSTN Details :

Please note that our state/plant wise GSTN details as below for invoicing and other purpose.

CORPORATE SERVICES EXTN-(1015)

09AAACG1209J1ZU

GAIL is in the process of implementing Vendor Invoice Management System for processing of invoices w.e.f. 01.04.2023. The solution is being configured to handle both physical invoices as well as digitally signed invoices. This system is expected to highly optimize the invoice management at GAIL and expedite their processing in future. The detailed methodology for submission of invoices shall be informed separately.

As a pre-requisite to the system, it is important to mention the details of Purchase Order/ Letter of Acceptance number on the face of invoice. Accordingly you are requested to ensure Purchase Order/ Letter of Acceptance number is clearly mentioned on the Invoice. Further Invoices should be system generated and no handwritten invoices shall be eligible for OCR conversion on VIM portal.

Your Bank Details :

Please note that details of your bank account in our system are as under. You are requested to verify the same and intimate discrepancies, if any

Account No. - 006502000006608

Bank Name - Indian Overseas Bank

IFSC Code - IOBA0000065

Price Reduction Schedule:

AS PER GCC-WORKS CLAUSE-27 AS REPRODUCED BELOW:

Time is the essence of the CONTRACT. In case the CONTRACTOR fails to complete the WORK within the stipulated period, then, unless such failure is due to Force Majeure as defined in Clause 26 here above or due to EMPLOYER's defaults, the Total Contract price shall be reduced by ½ % of the total Contract Price per complete week of delay or part thereof subject to a maximum of 5 % of the Total Contract Price, by way of reduction in price for delay and not as penalty. The said amount will be recovered from amount due to the Contractor/ Contractor's Contract Performance Security payable on demand.

The decision of the ENGINEER-IN-CHARGE in regard to applicability of Price Reduction Schedule shall be final and binding on the CONTRACTOR.

Defect Liability Period:

Defect liability period for work executed against the contract, shall be 12 Months and this shall be reckoned with from the date of completion of the work at site in all respects (issue of completion certificate) OR the Contractual Completion period of the contract, whichever is later. During the defect liability period, contractor stands responsible for rectifying all defects that may appear in the work executed by the contractor in pursuance of the contract and this includes warranties against Manufacturing/fabrication defects covering all materials supplied by the contractor, works executed against the defects in the workmanship.

Contract Document:

The following document shall constitute the Contract Agreement:

- 1) Contract Agreement executed between GAIL and Service Provider
- 2) This LOA no. GAIL/NOID/22194/5300038382/C&P/CIV/NIC, dated 28.02.2023
- 3) Tender document no. GAIL/NOIDA/C&P/CIVIL/22-23/194 (E-TENDER NO. 2023_GAIL_141303_1) dated 11.01.2023

FOI Reference/Regularization:

NIL

Engineer-In-Charge:

MR. HK JAIN, DGM (CIVIL-MAINT.), GAIL (INDIA) LTD., JUBILEE TOWER, NOIDA, EMAIL: JAIN@gail.co.in SHALL BE ENGINEER-IN-CHARGE (EIC) FOR THIS JOB(.) PLEASE CONTACT HIM FOR FURTHER EXECUTION OF JOB.

Vendor Code: 101012787
MANNU LAL & SONS

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
LOA Date : 28.02.2023

Other Contractual Stipulations:

Other contractual stipulations shall be as per Tender document.

Acknowledgement of Order:

The document shall be issued through Contract/Document transmittal System. Contractor is required to download the detailed LOA from the site (<https://www.gailonline.com> -> other links) and upload the same after digitally signing the same LOA document on portal.

Warranties / Guarantees:

Not Applicable

Extended Stay Compensation:

NIL

Consignee Address:

GAIL (INDIA) Ltd.
3RD FLOOR,JUBILEE TOWER
B-35-36,SECTOR-1
NOIDA-201301

General Conditions of Contract:

Shall be as per attached General Conditions of Contract (GCC)-Works

Special Conditions of Contract:

Shall be as per Special Conditions of Contract (SCC) of tender document.

Post Order Correspondence:

Post Order Correspondence shall be made with EIC.

Vendor Code: 101012787
MANNU LAL & SONS

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
LOA Date : 28.02.2023

Enclosures :

- 1) Tender document no. GAIL/NOIDA/C&P/BIS/22-23/194
(E-TENDER NO. 2023_GAIL_141303_1) dated 11.01.2023
- 2) General Conditions of Contract (GCC)-Works
- 3) Proforma of Contract Agreement (Works)
- 4) Integrity Pact

This order is being issued in triplicate. Two copies of the order duly signed, stamped and dated on each page, may be returned within 3 days from date of receipt of the order to the undersigned..

For & on behalf of
GAIL (India) Ltd.

(Authorized Signatory)

NAME
DESIGNATION :

**ASHISH
GOEL**

Digitally signed by ASHISH GOEL
DN: c=IN, o=GAIL India Limited,
ou=Contracts & Procurement,
2.5.4.20=51174c4fd6e2143d2c93668
120ea9262c50a69f884ea0ad172775
74cd9a491ca, postalCode=201301,
st=Uttar Pradesh,
serialNumber=bc3e63f5fcbef4fe738
b7bca709ecee15ba8f852ffe2d64724
476df44e6e7b00, cn=ASHISH GOEL
Date: 2023.02.28 15:42:00 +05'30'

CONTRACTOR'S ACCEPTANCE:

PLACE :	SIGNATURE :
DATE :	NAME :
	DESIGNATION :
	SEAL :

NOTE: Each page of this order including its annexure should be signed and stamped by the contractor before returning to GAIL (India) Ltd..

SCHEDULE OF RATES

Item : 1 - Civil

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	MARBLE & GRANITE WORK					
A1	Providing and fixing 18mm					

thick gang saw cut (pre molded and pre polished) machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, molding and polishing to edge to give high gloss finish etc. complete at all levels.

A2	Granite of any colour and shade					
A3	Area of slab over 0.50 Sqm.	2.140	M2	5,200.00	11,128.00	

(For Counter)

A4	Extra for fixing marble	3.570	M	350.00	1,249.50	
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/ granite stone over and above corresponding basic item, in facia and drops of width up to 150mm with epoxy resin-based adhesive including cleaning etc. complete.

A6	Providing and fixing machine cut,	63.510	M2	9,500.00	603,345.00	
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mirror/ eggshell polished, Marble stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge. 18 mm thick Italian Marble stone slab, Perlato, Rosso Verona, Fire Red or Dark Emperadore etc.

B	FLOORING & CLADDING WORK					
B1	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.

B2	Glazed vitrified floor tiles	139.020	M2	1,700.00	236,334.00	
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polished finish of size of Tile 600 x 1200 mm.

B3	Providing and laying machine cut,					
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mirror polished Marble stone flooring, in required design (Simple geometrical, abstract etc.) and in patterns in combination with Italian marble stones of different colours, shades and finished surface texture etc., in linear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab laid over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with white cement slurry @ 4.4 kg/sqm, including pointing with white cement slurry admixed with pigment to match the marble shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.

B4	18 mm thick Italian Marble stone	83.110	M2	6,300.00	523,593.00	
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slab, Perlato, Rosso Verona, Fire Red or Dark Emperadore etc.

B5	Providing and laying modular carpet	35.640	M2	2,950.00	105,138.00	
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Item : 1 - Civil

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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of approved make and shade and made with 100% nylon 6/6.6 tufted textured tip sheared/ cut & loop piles, tiles of minimum 500mm x 500mm in size, stain resistant, anti-microbial, and having colour fastness to water, fastness to light, rubbing fastness and castor chair suitability as per relevant standard for heavy commercial usage, with PVC free backing, nominal total thickness of minimum 6.50 mm, pile height minimum 3.4 mm, minimum Total Pile weight # 800g/sqm). Material shall be CRI GREEN LABEL PLUS certified, and shall have recycled content complying to GRIHA requirement, including fixing with GRIHA compliant adhesive of approved make, all complete as per drawings, manufacturer's specifications and direction of Engineer in Charge.

B6	Providing and fixing machine cut,	13.760	M2	11,500.00	158,240.00	Y#
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mirror / eggshell polished , 18-20mm thick Onyx stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.

C	ROOFING					
C1	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 edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering up to 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 : at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square.

C2	12.5 mm thick tapered edge	86.320	M2	1,250.00	107,900.00	
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gypsum moisture resistant board.

170	Providing and fixing tiled					
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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,

Item : 1 - Civil

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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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.

180	GI Metal Ceiling Lay in plain	68.280	M2	1,650.00	112,662.00	
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Tegular edge Global white color tiles of size 595x595 mm, and 0.5 mm thick with 8 mm drop; made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.

C3	Wooden Grid Ceiling :	13.520	M2	7,300.00	98,696.00	
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Providing & Fixing of Armstrong/Anutone/approved equivalent Wooden finishes Suspended Ceiling System with WOODWORKS 600mm X 600 & 1200x600 mm with 1200x150/100mm (MICRO LOOK) EDGE TILES WITH ARMSTRONG Silhouette B/R 15 MM EXPOSED GRID. (considering all levels with require all fabrication work and fitting from RCC slab to false ceiling 100 to 300 mm) The Tile with perforation pattern as per architect suggestion with approved veneer shade with semigloss PU finish Humidity Resistance (RH) of 90%, Fire Performance Class 1(BS - 476) in module size of 600mm x 600mm x 12mm with 1200x300x12mm with and density of 830 Kgs/M3. The grid should be of #Armstrong# make with Silhouette B/R 15mm wide T - section flanges color white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 38mm and a load carrying capacity of 14.29 Kgs/M2. The T Sections have a Galvanizing of 90 grams per M2 and pullout strength of 100kg. Suspension system for Armstrong grid to be of Armstrong make. INSTALLATION: To comprise main runner spaced at 1200mm centers securely fixed to the structural soffit using Armstrong suspension system (specifications below) at 1200mm maximum centre. The First/Last Armstrong suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees. In similar way prepare module of 1200x300mm if required. Perimeter trim to be Armstrong wall angles of size 3000x19x19mm, secured to walls at 450 mm maximum centres. SUSPENSION SYSTEM accessories manufactured and supplied by Armstrong World Industries consisting of M6 Anchor Fasteners with Vertical Hangers made of Galvanized steel of size 26 x 26 x 25 x 1.2mm with a Galvanized Thickness of 80gsm, A pre-Straightened Hanger wire of dia # 2.65 mm of 1.8 m length., thickness of 80gsm and a tensile strength of 344-413 MPa, along with Adjustable hook clips of 0.8mm thick, galvanized spring steel for 2.68 mm. The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner. (At all floor)

C4	Baffle False Ceiling					
C5	Supply of Luxalon in position	32.480	M2	8,500.00	276,080.00	

suspended false-ceiling system using U Baffle Aluminium panel ceiling manufactured by competent manufacturer Adhering to TAIM quality standards and progreen certificate to be submitted by the manufacturer, of approved colour wood finish consisting of panel size 100 mm deep X 50 mm width, 100mm module using 0.6mm thick, panel length up to 4 mtr, Powder Coated to required Colour from corrosion resistance Aluminium alloy AA 3105 (Al. Mg) for higher strength and good roll forming characteristics.(100% Recyclable), Powder coating should be in house. Panels shall be connected using a slotted angle suspension", longer length to be connected by Baffle splice and the ends to be fixed with End Caps. Progreen certification and material test certificate to be submitted to the client.

C7	Open Cell Ceiling System	28.510	M2	7,500.00	213,825.00	
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Supply & Installation of Luxalon® Aluminium AA3105 Cell Ceiling 50E manufactured by HDI of approved colour consisting of Main Runner, Cross Runner, Upper Sections, Lower Sections all of U-Shaped Profiles 10mm wide x 50mm deep x 0.5mm thick with inwardly returned edges of 2.5mm. Coil coated on a continuous Paint Line, Double baked and roll formed from enameled corrosion resistance Aluminium alloy for higher strength and good roll forming characteristics. The ceiling panels coil undergoes through levelling process on advanced CAD/CAM equipment to achieve levelling through ARKU SIX Hi configuration roller levelling process to ensure the flatness of the coil in the manufacturing process and releves stresses of coil. Cell ceiling panels should be manufactured from Roll forming machine to get the high-quality panels with accurate dimensions.

Item : 1 - Civil
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Aluminium Alloy (Al.Mg) AA3105 for higher strength and good Roll Forming characteristics. The Main Runner shall be fixed at a distance of 1.2mtrs c/c and shall be suspended by means of G.I. Suspension Rod 4mm diameter and a Galvanized Suspension Spring Clip at a distance of 1.2mtr c/c. The Cross-Runner shall be fixed to the Main Runner at a distance 0.6mtrs c/c., with a self-locking device. The Upper Section and Lower section shall be fixed to the Main Runner and Cross Runner in a form of a Cell Structure of module 100 X 100 mm x 100mm in triangular cell shape with a self-locking device. Paint Finish: The baffle coils to go through 4 stages of pre-treatment, three times oven baked through conversion coating, priming and finish coat ensuring superior adhesion, high corrosion resistance and good colour stability. The coils to be painted on both sides after degreasing. Inside surface to have a primer of 5microns and a coat of natural colour of 5microns, exposed surface to have a primer of 5microns, binder of 5microns and topcoat of approved colour of 15 microns.

All ceiling shall be Green pro Certified: For LEED certification by Indian Green Building council (IGBC). Ceiling manufacturer should have local manufacturing unit in India. Manufacturer should have Roll-forming machine to produce Baffle panels & in-house testing lab in India & having more than 20 years of existence in India.

Approved Makes - Hunter Douglas, Gorden, SAS, Armstrong

D	FINISHING WORK					
D1	12 mm cement plaster of mix :					
D2	1:6 (1 cement: 6 coarse sand)	15	M2	350.00	5,250.00	
D3	15 mm cement plaster on rough					

side of single or half brick wall of mix :

D4	1:6 (1 cement: 6 coarse sand)	15	M2	450.00	6,750.00	Y#
D5	20 mm cement plaster of mix :					
D6	1:4 (1 cement: 4 coarse sand)	10	M2	650.00	6,500.00	Y#
D7	6 mm cement plaster of mix :					
D8	1:3 (1 cement: 3 fine sand)	10	M2	650.00	6,500.00	Y#
D9	Neat cement punning.	40	M2	250.00	10,000.00	Y#
D10	Extra for providing and mixing water	7.240	NUM	85.00	615.40	Y#

proofing material in cement plaster work in proportion recommended by the manufacturers.

D11	Providing and applying plaster	192.840	M2	235.00	45,317.40	
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of Paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.

D12	Applying one coat of water					
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thinnable cement primer of approved brand and manufacture on wall surface :

D13	Water thinnable cement primer.	192.840	M2	70.00	13,498.80	
D14	Wall painting with acrylic					

emulsion paint of approved brand and manufacture to give an even shade :

D15	Two or more coats on new work	106.520	M2	250.00	26,630.00	Y#
D16	Finishing walls with Deluxe					

Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :

D17	Painting wood work with Deluxe	10	M2	300.00	3,000.00	Y#
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Multi Surface Paint of required shade. Two or more coat applied @0.90 ltr/10 sqm over an under coat of primer applied @0.75 ltr/ 10 sqm of approved brand or manufacture

D18	Applying priming coat :					
D19	With ready mixed pink or Grey	10	M2	100.00	1,000.00	Y#

primer of approved brand and manufacture on wood work (hard and soft wood).

Item : 1 - Civil
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
D20	Painting with synthetic enamel					

paint of approved brand and manufacture to give an even shade :

D21	Two or more coats on new work	50	M2	250.00	12,500.00	Y#
E	DISMANTLING AND DEMOLISHING					
E1	Demolishing cement concrete	1	LS	500,000.00	500,000.00	Y#

manually/ by mechanical means including Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix), brick work In cement mortar manually/ by mechanical means, Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, arcTaking out doors, windows and clerestory window shutters (steel or wood) architrave, holdfasts etc. complete of all area and sizes, wood work in frames, trusses, purlins and rafters up to 10 meters span and 5 meters height, tile work in floors and roofs laid in cement mortar, wooden boarding's in lining of walls and partitions, excluding supporting members, G.I. pipes (external work) including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means, old plaster or skirting raking out joints and cleaning the surface for plaster, aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling etc. including any item herein not mentioned but required for clearance of site including Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, up to any lead including all lifts involved.

F	MISCELLANEOUS ITEMS					
F1	WALLPAPER					
F2	Providing and fixing of	18	M2	1,700.00	30,600.00	

approved shade of Wallpaper over 12mm thick Marine 710 Ply Board backing. Wallpaper to be stucked on 12mm thick Marine 710 Ply Board backing using Adhesives, including all necessary hardware required for it etc., complete as per the detail drawing.

F3	Providing and fixing in	81.250	M2	7,500.00	609,375.00	
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in position 12 mm thick Toughened Clear Glass in partition panels by using various glass fittings of approved make (DORMA / HAFELE / HETTICH) to be fixed with necessary fittings on the ceiling duly finished without giving any load on the false ceiling by using necessary hardware of Dorma / Hafele make whatever necessary and required numbers to complete the job in all respect. Rate including cost of door opening with approval hardware such as patch fitting lock, handle etc of approved make but without cost of floor spring. Contractor is advised to submit working drawing with details of approved make patch fitting, sizes of glass panels etc and take approvals of consultants before execution of works. All complete as per detail drawing, as specified and as directed by Architect / Consultant / Project - In - Charge.

F4	Providing and fixing 12 mm	18.070	M2	12,300.00	222,261.00	Y#
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thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom 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 (Door handle, lock and stopper etc.to be paid separately).

F5	Providing and fixing Stainless steel	8	EA	3,000.00	24,000.00	
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304 Grade H- type pull handle of size min 32 mm dia and 1200 mm long of approved make including SS screws, including making holes of required size in shutter etc. complete as per direction of Engineer-in-Charge.

F6	Providing and fixing SS Bottom	4	EA	5,000.00	20,000.00	
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patch Lock with cylinder of approved make including necessary screws etc. all complete.

F7	Providing and fixing SS floor	4	EA	750.00	3,000.00	Y#
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mounted half dome door stopper of dia 45mm including necessary screws etc. all complete.

550	Fabricating and fixing Double	12.960	M2	15,000.00	194,400.00	
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leaf sliding 12mm thick toughened glass door with Ozone patch fittings as per details. The door to have sliding channel and required fittings for sliding door of Ozone make as per attached drawings & manufactures details. Door to be complete with hardware as follows - lock, 450mm - 28mm dia "D" type handle, rails & channels

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and support members for channel all complete as per details.

F8	BUILT IN /JOINERY & MISCELLANEOUS					
F9	The dimensions of the furniture					

as given in the respective items as below are indicative and there shall be no deviation of cost on account of this. However the tolerance limit for such deviations in sizes shall be limited up to 10% of any measurement mentioned in the item.

F10	Low height storage Cabinet	25.440	M2	16,000.00	407,040.00	Y#
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(Veneer finished)-375mm deep x 750mm high: Storage to be formed of 18mm commercial plywood and finished with 4mm thick approved shade of Veneer with adjustable shelves made of 18mm thick prelaminated MDF board with all exposed edges finished with 2mm thick PVC edge band (factory finished) as per details & architect approval. Shutters of cabinet to be formed of 18mm thick commercial plywood finished with 4mm thick veneer on outer surfaces and 0.8mm thick approved shade of laminate inside. Rear backing of cabinet to be formed with 12mm commercial plywood complete in all respect including 100 mm high veneer finished skirting as per approval/details. Exposed wood veneer surfaces to be finished with spray applied melamine polish. Storage to be complete with hardware installed as per the approved model/make & as directed to consist of the following: Shutter to have 2 nos. of automatic spring-loaded hinge of approved make installed strictly a per manufacturers guidelines with requisite tools/jigs. Each set of shutters to be provided with 1no. multipurpose lock for 22mm thickness foldable with master key Hettich (9246395) as specified, SS handles D type Hettich (1180121), auto bolt sensys hinge 95 degree opening Hettich (9242922), etc. (Hettich make)

Basic price of Veneer @ Rs.685/ Sqmt + taxes

(front area to be measured from bottom i/c height of leg/skirting to top of cabinet.

F11	Full Height Storage (Laminate finish)	1	EA	32,000.00	32,000.00	Y#
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- 600 mm Deep.

F12	Providing and fixing full height	10	M2	13,000.00	130,000.00	
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storage cabinet formed of 18mm plywood formwork/carcass with adjustable shelves as per details. Shutter of storage cabinet to be formed of 19mm commercial board/plywood finished with 1mm thick laminate of approved shade. All internal surfaces to be post laminated with 0.8mm thick HP laminate to approved shade. All external exposed surfaces to be finished with 1mm thick HP laminate to approved shade and all exposed edges to be finished with 2mm thick PVC edge band (factory finished) as per details. Each set of shutters to be provided with 1 no multipurpose lock for 22mm thickness foldable with master key Hettich (9246395) as specified, 6mm thick SS D type handles Hettich (1180121), sensys Hinge Hettich (9242922) as per details. Exposed wood surfaces to be finished with spray applied melamine polish (front area to be measured and paid for). Hardware: All hardware shall be as per the approved model/make.

F13	PANTRY/ VENDING COUNTER					
F14	Counter with storage:	3.030	M2	25,000.00	75,750.00	Y#

Providing and fixing of counter with storage cabinet formed of 18mm thick prelaminated MDF board formwork/carcass/adjustable shelves/shutters with all exposed edges finished with 2mm thick PVC edge band (factory finished) as per details shown in drawing. Top of cabinet to be formed of 19 mm thick commercial plywood/board. The storage also to have drawer pedestals made of 18mm thick prelaminated MDF board with all exposed edges finished with 2mm thick PVC edge band (factory finished) as shown in drawing. Top of cabinet to be formed of 19mm thick commercial plywood/board. Rear backing of cabinet to be formed with 12mm thick marine plywood. Counter top, facia and 200mm high partial splash board to be finished with Pre-polished Granite Stone of approved shade & make as per details. All laminate shades to be of approved shade and colour. Cabinet to have concealed dustbin behind flap door formed of stainless steel in hairline finish as approved. All exposed wood surfaces to be finished with spray applied melamine polish. Also, to provide skirting in laminate finish as per details. (Front area up to counter top to be measured and paid for). Storage to be complete with hardware installed as directed to consist of the following: Shutter to have 2 nos. of automatic spring-loaded hinge of approved make installed strictly a per manufacturers guidelines with requisite

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tools/jigs. Each set of shutters to be provided with 1no. multipurpose lock as specified, SS handles, auto bolt, etc. Hardware: The storage to have all necessary hardware/ Locks/ Handles D type Hettich (1180121)/ Sensys Hinges with opening 165-degree Hettich (9243040) complete as per details drawing & shall be as per the approved model/make. (Hettich make). Counter with storage of size 600mm (D) x 850mm (H)(approximately) with 19mm thick pre-polished Granite stone (Basic price of Granite stone @ Rs.1600/ Sqmt + taxes).

F15	Providing and fixing partition					
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up to 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 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.

640	STORAGE - OVERHEAD					
650	Providing and fixing overhead	3.210	M2	15,000.00	48,150.00	

storage with the size of 600mm high and 400mm deep, made up of 18mm thk BWP plywood and finished with approved prelaminate, Internal partitions to be made up of 12mm thk approved prelam bwp plywood, with Finger groove opening provision in shutters to be made. Exposed Bottom side also to be finished with same prelam, 19mm thick shutters to be finished with approved pre-Laminate bwp plywood. All exposed edges to be finished with approved 1.5mm thick PVC edge banding. Rate to include grooves, all approved hardware's & accessories. All Finishes & accessories to be same as undercounter storages.

Hardware Make: Hettich or equivalent

F16	Providing and fixing partition upto	35.250	M2	1,752.00	61,758.00	
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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 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.

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75 mm overall thickness partition with 12.5 mm thick double skin fire rated Glass Reinforced Gypsum (GRG) plaster board conforming to IS: 2095: part 3 (Board with BIS certification marks)

F17	Providing and fixing panelling					
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or paneling and glazing in paneled or paneled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Paneling for paneled or paneled and glazed shutters 25 mm to 40 mm thick :

F18	Pre-laminated particle board	10.830	M2	1,500.00	16,245.00	
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with decorative lamination on one side and balancing lamination on other side, Grade I, Type II IS: 12823 marked.

F19	Manual Roller Blinds					
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F20	Supplying and installing roller blinds	80	M2	1,600.00	128,000.00	
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of approved make, model and shade at all heights and location and required width and comprising of approved shade and quality fabric, 1 mm thick anodized extruded Aluminium alloy roller tube of 38-mm O.D , a bidirectional operating Clutch mechanism designed for adjustment-free, slippage-free, crash proof smooth operation for all heights, high strength fiber glass reinforced polyester idler, powder coated steel Insert type brackets fitted with roller tube, round bottom rail, control unit engrooved with a Ball Pitch of minimum 6.5mm, Stainless Steel Ball Chain, and powder coated atomized steel installation brackets. The clutch mechanism comprises of a SS beaded chain and carbon steel spring wrapped by means of a high strength fiber glass reinforced polyester assembly to transmit motion from driving to driven members. The installation brackets shall facilitate overhead, side or face mounting with clutch assembly on either end of the roller. Idler shall consist of a centre shaft and outside sleeve which provide bearing surface for roller tube and rotate freely on centre shaft for smooth and quiet operation.

Bottom rail along with the fabric shall be enclosed in a suitably created pocket and shall be of powder coated aluminium tube and closed from sides with end caps. The item includes all fittings, accessories, brackets, screws, anchor fasteners, fabric as per approved sample and shade all complete as per drawings, tender specifications, relevant standards and direction of Engineer in charge. (Height of blind from top bracket to bottom tube and width from bracket to bracket shall be measured for payment)

Manual Roller Blinds with following specification:

Composition- 30% Polyester (max),70% PVC on Polyester(min),

Openness factor- 3-5% (as approved)

Weight (gram/ sqm)- min 440 gm/sqm

Thickness- min 0.60 mm

Fire Classification- Class A (NFPA 101 or Class 1 (UNE EN 13773) or equivalent as per relevant standards and specifications

Fastness to light- 6-7/8 or higher

Indoor Air Quality- Greengard / Eco-Codice Certified.

Manufacturer's warrantee- minimum 5 years.

F21	Supply, installation testing and	15	M2	12,500.00	187,500.00	
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commissioning of vertical garden consisting of welded MS Structure, poly propylene green wall module with pots, Drip irrigation system and good-looking outdoor plants to create a natural vertical garden look. The MS structure for vertical garden of height 8.00 meter shall be designed by the specialized agency to be engaged for the work of vertical garden. MS structure to be finished with two or more coat of epoxy paint of approved quality and shade over one coat of primer. Poly propylene green wall module of size approx. 170mm x 470mm shall be mounted over MS Structure with the support of fastener/screw /nut bolt etc. as required. Each module shall contain three poly propylene pots of size approx. 125mm x 125mm. Drip Irrigation system consisting of LLDPE Drip tubing 16 mm OD, 3.0 Kg/cm² rating, 2 LPH emitters at approx. 150 mm spacing including all fittings and cpvc pipes of suitable sizes for making connection with existing irrigation main line and shall be

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capable to supply water to individual potted plants. Plantation of different type of outdoor good-looking plants to create a natural vertical garden look with light weight. Each pot shall contain soil mixture having cocopit, vermi compost, perlite, vermilit & good earth, suitable for plantation. Vertical garden shall be completed in all respect including temporary staging & bracing and removal of the same after completion of vertical garden and maintenance till the handing over to client, all complete as per direction of Engineer-In-Charge.

F22	LAQUER GLASS PARTITION/PANELLING					
F23	Providing & Fixing of lacquer glass	33.120	M2	5,683.00	188,220.96	

as per approval in any color fixed on existing ply/ MDF base with all other accessories as per architectural drawing. The Lacquered glass shall be highly durable, humid resistance, polyurethane lacquer glass. The glass to be manufactured by industrial curtain coating process. It should meet quality standards as per BS EN 1036 1999 & conform to persoz hardness test of at least 220 oscillations. The substrate of the glass should confirm to Standard BS EN 572 1995 parts 1 & 2. Lacquered glass to be manufactured to tight specifications, relating to consistency of color, opacity and homogeneity throughout production campaigns and also to the ageing properties, mechanical resistance, and resistance to humidity and to chemical agents of the lacquer. The color of the lacquer should remain stable when exposed to normal levels of ultra-violet light in interior applications.

F26	GLASS GRAPHICS					
F27	Providing and fixing film	81.250	M2	1,500.00	121,875.00	

etching with plotter cutting and application of 3MM/LUMAR/GARWARE make as per approved design on glass surfaces all complete as per instructions and patterns and design of the Architect.

F28	Designing and providing and	25	M2	16,000.00	400,000.00	
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fixing murals on wall in Corten steel in 3mm thick, in process of laser cutting with sand Blasting. Special on-site anti crack treatment done between clamped and joint parts, to prevent, water crack in future. All Metal components to be treated for anti-rusting and anti-corrosion treatment, for longevity and durability, in extreme weather conditions. All Metal bending and bracing and fillers, with the alloy of same configuration, in 99.9% Purity. Acid treatment and heating done over surface. Anti-Carbonization Nano Coating treatment. The same to be fixed on wall with help of proper fixing arrangement to be got approved by EIC.

F29	Corian top:- Providing & fixing	39.600	M2	12,916.00	511,473.60	
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cladding with 'Corian' finish using Acrylic solid surface of 6 mm thickness on top of tables, facia storage units, columns etc. where directed. The rate to include all materials, labour, transportation, wastages etc. complete.

F30	Supply and Installation of 6mm thick	8	M2	7,300.00	58,400.00	
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Exterior grade F- Quality panels of standard size with both side décor. FunderMax Exterior panels are Duromer high-pressure laminates (HPL) as per EN 438-6 type EDF manufactured with norm conformity of EN 438-7 using patented NT Technology (NT is Non fading high performance acrylic polyurethane surface Technology). Panels will be double hardened including acrylic polyurethane resin and thermally cured under high pressure. These Panels will have CE-Mark necessary for their use in building applications. Installation of FunderMax panels will be done by MBE Rivets (with Fixed and Sliding Points) with recommended Aluminum T section of 75x37x2.8 mm thick and L section 38x38x2.8mm thick held by Aluminum Wall Bracket with Wind load and Dead load slot as designed and provided, anchored by standard anchor fasteners along with Thermal Separator. Installation of Panels will be done using Rear Ventilated Principles only, which is ensured by providing ventilation gap minimum 200 cm2/ per Meter (for free flow of air behind the façade) for the façade and using the framework with no horizontal section.

F31	Wooden Panelling					
F32	PLY WALL PANELING FINISH WITH					

VENEER FINISH: Providing & fixing 12mm thick IS 710 ply fixed on frame work. The framework shall be fixed as per drawing vertically & @ 600 mm c/c vertical & 1200 mm c/c horizontally. The frame work shall be made from Aluminium section make JINDAL/HINDALCO conforming to IS specification In paneling, (intermediate, perimeter) & (at vertical or horizontal joint of ply & at turning point) shall be fixed to

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the wall/floor & ceiling with Sheet metal screws/Nylon grip screws of Corro-shield /Fischer and shall be supported by filling required size wedges /washers/ MS wall connectors or packings of teak wood /MS washers to ensure right angles and plumb level. All ply/wooden frameworks shall be treated with anti-termite treatment & hidden the framework shall be covered with approved make plywood (IS 710- 12 mm ply), adhesive, tape, headless nails etc., finished with Veneer (veneer base 4 mm thick Gurjan ply) with semiglossy.

F33	PU polish & in pattern as shown	9.090	M2	7,000.00	63,630.00	
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in the drawing. Rate shall be inclusive grooves etc. complete as per drawing or as directed by EIC/ Architect. The rate shall be in Sq.mt of actual paneling work for all floors, at all heights, all shapes. Rate shall inclusive of all material, labor scaffolding, tools, tackles, for all heights and for all levels, Rates shall also be inclusive of cost of making cut outs/ openings for electrical fixtures, tube lights /air-conditioners, grills, diffusers etc. & providing additional sections for strengthening around the openings/cutouts, making grooves between wall & board or as per drawing /instruction of EIC. and no extra payment shall be considered for additional sections provided. All curved surfaces, recesses, waffles shall be part of the paneling including openable shutter wherever required area and finish with the same material. Rate shall be inclusive of all item inclusive part of paneling Only the clear elevation area shall be measured and paid.

F34	veneer paneling					
F35	Providing and fixing of 4mm thick	10	M2	2,596.00	25,960.00	

Veneer cladding of Maple or approved shade on existing partitions/paneling fixed with adhesive, matching grains and including spray applied matte melamine polishing. Veneer to be fixed in panels of width as specified and 4mm grooves as shown in drawings. Basic price of Veneer @ Rs.1000/ Sqmt + taxes.

F36	GLOSSY LAMINATE PANELING					
F37	Supply and installation of	8	M2	4,000.00	32,000.00	

approved shade Glossy Laminates paneling over 12mm thick Marine -710 Ply Board as backing to achieve required partition thickness & support as per the manufacturer specifications & details complete.

F38	LEATHER PANELING					
F39	Supply and installation of	8	M2	7,000.00	56,000.00	

approved shade Leather paneling over 12mm thick Marine -710 Ply Board as backing to achieve required partition thickness & support as per the manufacturer specifications & details complete.

880	Acoustical Wall Panels					
890	Providing& fixing in position	25	M2	4,500.00	112,500.00	

wall panelling at all heights of thickness 25 mm with Credence Fiber Glass Acoustical Wall Panels of size 600X600 /600x1200 mm creda, resin bonded square edges having NRC of 0.9 minimum. The panels should be manufactured from high density bio-soluble resin bonded glass wool absorber having density of 96 Kgs/m3 and wrapped on the front side with an acoustically transparent fabric having option of colours and fabric options like jute etc. as per approved by architect/engineer-in-charge, plain tissue backer and fabric wrapped hardened edges. Panels should have humidity resistance up to 90 %, thermal conductivity # 0.03 (m² k / w) thermal resistance # 0.9 (m² k / w) & moisture rate # 1% (JC/T670 # 2005). The panel should be fully recycled and fire retardant as per Class A. The installation comprises surface impalers having projecting elements called spikes shall be fixed on the plain surface at 1200 mm center to center horizontally and 600 mm center to center vertically or as per approved by engineer-in-charge, using self-tapping screws. Silica based construction adhesive to be dabbed on to the projecting elements (spikes) of the impalers. Wall Panels shall be pierced through the spikes of the impalers ensuring line & level of panel are maintained. The panels should be mounted on the impalers horizontally or vertically as per the approved design or as per the directions of the engineer-in-charge.

F42	Aluminium Corrugated Louvers					
F43	Providing and fixing Horizontal	4.420	M2	9,500.00	41,990.00	

/ Vertical Aluminium Corrugated Louvers as per the drawings enclosed as per approved shade, fabricated out of heavy-duty aluminum extruded profiles (Powder coated / anodized) fixed with Aluminium tube outer frame. All aluminum members & profiles shall be of AC 25 grade as per specification. The Aluminum members shall be

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protected with Masking Tapes all around the profiles for safety against external scratches at site (Masking Tapes shall be removed only at the time of handing over as per the instructions of Developer). The fabrication shall be done with all the joints mitered; the Outer Frames and Mullions jointed with appropriate Stainless-Steel Screws, Heavy Duty Aluminum Angle, Cleat, box sleeve etc. EPDM gaskets to be used for preventing Bimetallic corrosion wherever required. The fixing shall be done on to Aluminium frames or existing openings at anchorage locations, in windows, walls, glazing jambs, cills and heads etc. by drilling holes with an electric drill, inserting fasteners, stainless steel counter sunk screws etc.

F44	Providing & Fixing of	1	NUM	135,000.00	135,000.00	
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Rhythmscape/Hunterdouglas/Credance/Armstrong Fabric Wood Panel 1800mm x 600mm as per the drawing made of 12mm real walnut wood species with Custom wooden stain finish with an Organic base and a trimer of cyanamide with 1#3#5 Triazine with custom machine coat finish as approved to be installed using z profile system as per the manufacturer specification. All material should be of approved make & complete as per the drawing, specification, and approval of the architect.

Make #Rhythmscape/Hunterdouglas/Credance/Armstrong

F45	Providing & Fixing of	32	NUM	3,500.00	112,000.00	Y#
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#Rhythmscape/Hunterdouglas/Credance/Armstrong Acoustic Trapezium Panels 300mm x 450mm in custom size as per the drawing made of 35mm thick high-performance wood fibre with custom stretchable scuba with Owen corning's fiber class 24kg/m3 Nrc 0.9 in petal form with special Organic base and a trimer of cyanamide with 1#3#5 Triazine with custom shade as approved to be installed using Z profile system with special hook as per the manufacture specification. All material should be of approved make & complete as per the drawing, specification and approval of architect. Scaffolding in Client Scope.

Make -Rhythmscape/Hunterdouglas/Credance/Armstrong

F46	Providing & Fixing of	65	M2	6,000.00	390,000.00	
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#Rhythmscape/Hunterdouglas/Credance/Armstrong Acoustic Petal Ceiling in modules of 212mm x 300mm with 100mm depth made of high performance Acoustic 12mm Pet Flake as approved to be installed using special clip system as per the manufacture specification. Scaffolding to be provided by the client. All material should be of approved make & complete as per the drawing, specification and approval of architect.

Make -Rhythmscape/Hunterdouglas/Credance/Armstrong

F47	Designing and providing and	18	M2	16,000.00	288,000.00	
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fixing murals on wall in Corten steel in 3mm thick, in process of laser cutting with sand Blasting. Special on-site anti-crack treatment done between clamped and joint parts, to prevent, water crack in future. All Metal components to be treated for anti-rusting and anti-corrosion treatment, for longevity and durability, in extreme weather conditions. All Metal bending and bracing and fillers, with the alloy of same configuration, in 99.9% Purity. Acid treatment and heating done over surface. Anti-Carbonization Nano Coating treatment. The same to be fixed on wall with help of proper fixing arrangement to be got approved by EIC.

F48	Wooden sound slate Panelling					
F49	Providing and fixing in position	65	M2	5,000.00	325,000.00	

wall paneling of Credence grooved wood panels ESTO width 192mm, thickness of 16mm and length 2440 mm made up of high-density fiber board with minimum density of 800 Kg/m3 substrate with a laminated facing as per the approved shade/species & finish with melamine balancing layer on the reverse side. The boards shall have a special perforation pattern of 3 mm grooves at 21mm pitch. The panels shall be highly moisture resistant and have fire resistance of Class I, BS 476 part 7. The edges of the panels shall be #tongued-and-grooved# to receive special clips for installation. The back of the perforated panels shall have sound absorbing non-woven acoustical fleece and backed with 50mm thick rock wool layer as directed by the Engineer-in-Charge. The panels shall be mounted on special channels using clips as approved by the Engineer -in-charge. Install G.I stud of section 48X34X36 mm or as approved by the Engineer -in- Charge on the solid wall using screws at spacing of 600mm centre-to-centre. Screw the aluminum channel (keel) on channeled G.I

Item : 1 - Civil
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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stud 600mm centre to centre. Install the first set of wooden panels by inserting the clips. For border channel insert the groove of the panel in to the projecting flange of the clip. Continue installing rows of panels by inserting the tongue into the groove of the earlier inserted panel and progressively installing clips for inside channel into the next aluminum channel (keel) and simultaneously fill the gap between wall & panel with 50mm thick rock wool having density of 48 kg/m3. Continue the process till the actual height is achieved. Use clips for border channel to finish off the installation, finish the edges and joints using wood molding of matching color (to be provided by others) as approved by Engineer-in- Charge. The installed panels should give an NRC of 0.9.

F52	Providing and fixing following					
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16-18mm Italian/Imported Marble stone. The stone to be fixed after putting dabs of neat cement on walls & resting stone on them. The Stone to be anchored at bottom and at top with "L" Shaped MS Cleats as per details. Back of stone to be filled with white cement slurry complete. Size of the stone to be at least 2100mm height /length x600mm wide. Joints to be minimal and filled with white cement mixed with colour pigment to match colour of stone. The item includes polishing the laid stone to give a plain, level and smooth finish complete.

F53	For LOBBY and entrance facia	150	M2	13,000.00	1,950,000.00	
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with (Botticino Classic, Grey William, Royal Diana, Statuario Marble, Rosso Verona etc. to be White with minimum base rate of Approx. Rs. 465/Sqft.)

F54	Providing and laying Laminate	24	M2	3,300.00	79,200.00	
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wooden flooring (Grade AC4 or AC4 + laminates) 6 mm to 8mm thick, having a good backing layer made up of plastic laminate or melamine, core made up of medium-density fiberboard (MDF), which is less resistant to impact damage and less resistant to being dented by heavy furniture, having a décor layer to give each floor its appearance and consisting of one or more sheets of paper impregnated with melamine resin and top wear layer having clear aluminium oxide finish that protects the decorative layer & imparts the desired level of sheen, from full gloss to low gloss, duly fixed to the base floor using adhesive as approved by the manufacturer.

F55	Wooden ceiling finish with veneer:	18	M2	6,000.00	108,000.00	
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Providing and fixing IS 710 12 mm thick plywood false ceiling as per drawing & instruction of EIC & sample approved (complete with frame work). finish with 4 mm thick veneer gurjan base ply Semi glossy melamine finish polish. Plywood shall be fixed with required fabrication work and ply frame work with all necessary accessories Rate shall include cost of making of all cutouts for light fixtures, gadgets, gizmo, pelmets, grooves, beads and also provide support/template where ever required The rate shall be in sq.mt for all floors and at all heights including all costs the shop drawing (or a sample mock of 5 Sqm minimum of the frame work and ceiling) shall be approved from EIC. 5mm Groove shall be provided at the junction of the false ceiling & the wall. (considering all levels with require all fabrication work and fitting from RCC slab to false ceiling 100 to 1000 mm).

F56	'Fabrication, supply and Installation	21	ZRM	12,500.00	262,500.00	Y#
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of New clear line glass railing system by Ozone made of Heavy-duty aluminum U Type Hollow Walls Base channel (HWBC) (OZRF-NCLSYS- HWBC-AL) AL-6063 grade with mill finish of size 12.5mm (thick) 72 (wide)x122 mm (height). Glass Specs. is 16.89mm thk (8mm CT+ .89SGP+ 8MM CT) to be GRIPPED with fixing kit (OZRF-NCL-ACC-KIT-17MM) made of self-pushing clamps (SPC) made by hardened aluminum -6063 grade each at maximum 350mm cc to cc. glass should be lifted from base by Solid Nylon L Block separates at least 3 nos. meters. HWBC to be fixed with M12 GI stud chemically grouted. Glass should be fixed with completely dry system so that in case of breakage it can be changed without any silicon cutting and very fast as well. exposed edges of HWBC (if any) to be covered with SS 304 grade end caps. The Top Edge of glass will be covered with SS 304 grade Round slotted tube of Dia42x1.5 mm thick. fixed on the glass edge with EPDM gasket. The Vertical joint of glass will be free from silicon. The total height of the system will be max. 900 mm from ledge top, all top rail joints will be joined by using argon welding only. Rate inclusive of glass formwork/ mould of MDF/ PLY as per manufacture's requirement.

F57	CONCRETE CLADDING					
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Item : 1 - Civil

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
F58	Providing and fixing CONCRETE CLADDING	25	M2	7,200.00	180,000.00	

BY NUANCE STUDIO - DORIC SERIES 2700X900mm ROUGH FINISH using Litheoz concrete which is a fiber reinforced concrete technology and cast in panels using wet cladding using adhesive of various sizes as directed, cleaning, finishing, curing etc. complete as directed by Engineer-In-Charge. The compressive strength to be between 100 to 120 Mpa and Flexural strength to be between 12 to 15 MPa, the back of the panels should be primed with a priming liquid polymer before cladding. Apply the tile adhesive onto the wall and the panel and press the panel firmly onto the wall, the spacer gaps should be filled with superior quality tile grout / sealant. The tile edges need to be masked by filling the space gaps. including necessary hardware, scaffolding, finishing and cleaning etc.

F59	CONCRETE CLADDING					
F60	Providing and fixing CONCRETE CLADDING	25	M2	7,000.00	175,000.00	Y#

BY NUANCE STUDIO - TRAVERTINE FLAT PANELS ROUGH FINISH using Litheoz concrete which is a fiber reinforced concrete technology and cast in panels using wet cladding using adhesive of various sizes as directed, cleaning, finishing, curing etc. complete as directed by Engineer-In-Charge. The compressive strength to be between 100 to 120 Mpa and Flexural strength to be between 12 to 15 MPa, the back of the panels should be primed with a priming liquid polymer before cladding. Apply the tile adhesive onto the wall and the panel and press the panel firmly onto the wall, the spacer gaps should be filled with superior quality tile grout / sealant. The tile edges need to be masked by filling the space gaps. including necessary hardware, scaffolding, finishing and cleaning etc.

F61	SITC of art MURAL Light Pottery	1	LS	10,000.00	10,000.00	
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Decorative items as per approval by Engineer in Charge and selected by Architect for the works. They shall be procured from the market as per selection and brought and installed as per directions. Contractor shall be paid overhead of 10% on the procured cost. all other charges shall be inclusive.

F62	Providing and covering Existing	40	M2	8,000.00	320,000.00	
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LED Panels/Video Wall using 10mm Thick MDF and long square wooden planks. The boxing shall be done from all around to ensure against Dust. Joints shall be provided with silicone sealant. All other measures like Bubble wrapping/taping/erection and dismantling of the structure shall be deemed to be included in the quoted rate.

F63	Panels shall be fabricated from	55	M2	4,500.00	247,500.00	Y#
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0.71 mm thick (TCT) aluminium alloy. Panel shall be square edged. Panel size shall be 1200 mm * 300 mm and shall be powder coated on external surface only. Edge profile shall be 18 mm * 20 mm fabricated from G.I. Sheet. Tile shall have 3 mm dia at 7 mm Centre to Centre in diagonally. GI rod, top and bottom portion of rod shall be rounded, Top end shall be screwed to slab and bottom shall be nut bolted to hold on hanger. Sil Carrier shall be fixed into hold on hanger with level adjusting spring steel clip to maintain the desired level of False Ceiling. Suspenders shall be at max. 1200 mm and the distance between two carriers will be 1200 mm center to center. Panel shall be snapped into carrier. Pressure clip shall be provided along the length to hold the panels. Edge profile shall be fixed on the perimeter of walls and columns. SIZE 1200X300-Panel Size

Work Order Item 00001

Basic Item Value : INR 11,470,080.66

(RUPEE ELEVEN MILLION FOUR HUNDRED SEVENTY THOUSAND EIGHTY AND PAISE SIXTY-SIX ONLY)

Item Specific Conditions :

Total Tax = 2,064,614.52

18 % IGST - Cenvatable-(IX)

Total item value including taxes & duties : INR 13,534,695.18

Item : 2 - Fire System
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Item : 2 - Fire System
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	FIRE FIGHTING SYSTEM					
20	PIPES & VALVES					
1	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:

40	80 mm dia.	5	M	1,800.00	9,000.00	
50	65 mm dia.	15	M	1,600.00	24,000.00	
60	50mm dia.	15	M	1,250.00	18,750.00	
70	40 mm dia.	15	M	1,050.00	15,750.00	
80	32 mm dia.	20	M	850.00	17,000.00	
90	25 mm dia.	30	M	750.00	22,500.00	
100	AUTOMATIC SPRINKLER SYSTEM					
2	Providing, fixing, testing &					

commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories :

120	Pendent Sprinkler	30	EA	550.00	16,500.00	
3	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, stock bar of following sizes complete as required.

140	1000mm	30	EA	1,500.00	45,000.00	
4	Providing, installation, testing &	30	EA	225.00	6,750.00	

commissioning of adjustable rosette plate for 15mm dia in white finish UL Listed or FM approved complete as required.

B	PLUMBING					
1	Providing and fixing Stainless Steel					

A ISI 304 (18/8) kitchen sink as per IS: 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :

180	510x1040 mm bowl depth 200 mm	1	EA	7,500.00	7,500.00	
2	Providing and fixing P.V.C. waste pipe					

for sink or wash basin including P.V.C. waste fittings complete.

200	Flexible pipe					
210	40 mm dia	1	EA	150.00	150.00	Y#
3	Providing and fixing Chlorinated					

Polyvinyl Chloride (CPVC) pipes, 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

Item : 2 - Fire System
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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including testing of joints complete as per direction of Engineer in Charge.

230	Concealed work, including cutting					
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chases and making good the walls etc.

240	15 mm nominal dia Pipes	1	M	600.00	600.00	Y#
250	20 mm nominal dia Pipes	5	M	700.00	3,500.00	Y#
260	25 mm nominal dia Pipes	8	M	800.00	6,400.00	Y#
270	32 mm nominal dia Pipes	10	M	900.00	9,000.00	
4	Providing and fixing C.P. brass					

bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.

290	15 mm nominal bore	2	EA	900.00	1,800.00	
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Work Order Item 00002 Basic Item Value : INR 204,200.00
(RUPEE TWO HUNDRED FOUR THOUSAND TWO HUNDRED ONLY)
Total Tax = 36,756.00
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 240,956.00

Item : 3 - Furniture
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	Sofa for Lobby area					
20	Supplying, and placing in position					

of sofa as per Image. The sofa is crafted from the best materials to make a sofa that's truly worthy of your living room. Upholstered in a premium leatherette, the sofa is a sight for sore eyes. The curved box cut design adds an elegant charm to any space. The solid wood frame and legs give a sturdy presence to the sofa. Seating Height 425mm, Legs Solid Wood. The seat cushion is made of multi layered foam of density 32-35kg/m3. The seating cushion have 2.75 & 1.75 inches of elastic webbing. The thread used is nylon bonded to provide lasting stitch strength. The backrest has a foam of 28kg/m3 with polyester poly fill outer layer of 200 gsm. The polyester polyfill keeps the upholstery wrinkle free & soft. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI, Herman Miller Herman Miller. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

30	3 seater Dimension	5	NUM	76,500.00	382,500.00	
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(W)1800mm X (D)710mm X (H)770mm.

40	2 seater Dimension	2	NUM	63,000.00	126,000.00	
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(W)1530mm X (D)710mm X (H)770mm.

2	Center Table for Lobby area					
60	Supplying and placing in position					

of centre table as per photograph. The wooden centre table celebrates a marriage of simplicity and functionality. Resting atop a clear glass, it creates a stunning contrast of modern and rustic. Timeless design that elevates your space. Open storage space for books or magazines with Kiln- dried solid wood is highly durable are made from sustainably sourced beech wood. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex

Item : 3 - Furniture
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

70	Dimension(W)1150mm X (D)550mm X (H)450mm	5	NUM	27,000.00	135,000.00	
3	Side Table for Lobby area					
90	Supplying and placing in position					

of side table as per photograph. The wooden centre table celebrates a marriage of simplicity and functionality. Resting atop a clear glass, it creates a stunning contrast of modern and rustic. Timeless design that elevates your space. Open storage space for books or magazines with Kiln- dried solid wood is highly durable are made from sustainably sourced beech wood. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

100	Dimension(W) 580mm X (D)450mm X (H)450mm	3	NUM	15,200.00	45,600.00	
4	Meeting Table					
120	Supplying and placing in position					

of meeting table as per photograph/drawing. The table top is made out of 42mm thick Prelam Particle board top with 2mm thick pvc edge banding. The table top shall be supported with 36mm thick Side panel & Modesty panel with 2mm thick PVC edge banding. All working or non-working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt glue at hot temperature. Providing of wire raceway & junction box for connectivity of wires & cables. The table also provisioned with 6 modules Flip top box for wire flow. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

130	Dimension: 3300mm(L) X 1100mm(D) X 750mm	1	NUM	170,500.00	170,500.00	
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(H)

5	Supplying, and placing in position					
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of 360 degree revolving high back chair as per Image. The high mesh back chair is a magnificent chair with creative tree detailing, so when you look at it from afar it feels as if a tree is emerging from the roots to the branches and leaves on the top. The leaves add function to the design being adjustable for improved lumbar support. The chair with adjustable headrest & armrests. Material & Subtype: Mesh, Colour & Colour Family: Black, Dimension(W)600mm X (D)500mm X (H)1282mm, Back Type: high Back, Base: Aluminium Base, Base Type: Revolving, Maximum Seating Height:21.25" ,Minimum Seat Height:17.32", Function: Revolving::Pneumatic Height Lift::Adjustable :Multi-Locking Knee Tilt::Adjustable Armrest, 3 D Lumbar Support, Locking Mechanism: self tention adjustment/any position multi locking, chair Handle: adjustable handle with pp pad. The Seat are made up of 12mm thick hot-pressed plywood upholstered with moulded foam and fabric, chair seat has foam of density 32-35 kg/m3. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

150	Main Chair for Meeting room	2	NUM	20,700.00	41,400.00	
6	Supplying, and placing in position					

of 360-degree revolving medium back chair as per Image. The medium mesh back chair is a magnificent chair with creative tree detailing, so when you look at it from afar it feels as if a tree is emerging from the roots to the branches and leaves on the top. The leaves add function to the design being adjustable for improved lumbar support. The chair with adjustable armrests. Material & Subtype: Mesh, Colour & Colour Family: Black,

Item : 3 - Furniture

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Dimension(W)600mm X (D)500mm X (H)1090mm, Back Type: Medium Back, Base: Aluminium Base, Base Type: Revolving, Maximum Seating Height:21.25" ,Minimum Seat Height:17.32", Function: Revolving::Pneumatic Height Lift::Adjustable :Multi-Locking Knee Tilt::Adjustable, Armrest, 3 D Lumbar Support, Locking Mechanism: self tention adjustment/any position multi locking, chair Handle: adjustable handle with pp pad. The Seat are made up of 12mm thick hot-pressed plywood upholstered with moulded foam and fabric, chair seat has foam of density 32-35 kg/m3. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

170	Visitor Chair for Meeting room	17	NUM	19,000.00	323,000.00	
7	Main Table for GM Cabin					
190	Supplying, and placing in position					

of a straight-line table with wire manager as per photograph/drawing. The main desk of size 2300mm (L) X 900mm (D) X 750mm (H) shall be made out of 42mm thick pre-laminated particle board with the approved shade. Table top supported with side panels and modesty panel. The side panels made out of 42mm thick pre-laminated Particle board & modesty panel made out of 36mm thick pre-laminated Particle board of approved shade. All working or non-working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt glue at hot temperature. Provision of Pop-up - cable manager box in the table. The Fixed Side Runner attached to the table of all over size 1940 mm (L) x 450mm (D) x 650mm (H) has a provision for three drawers with locking facility, two openable shutters with locking arrangement, open storage with shelf & one open storage for CPU. The another side panel of table top having a provision of two attached drawer as per photograph. The table top rest on SS studs for design purpose same as per image. LEATHER finish shall be given for 1/3rd of the width of the table as shown in image. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

200	Main Table Dimesnion:	1	NUM	134,000.00	134,000.00	
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(L)2300mm X (D)900mm X (H)750mm.

All over Side Runner Dimension: (L)1940mm X (D)450mm X (H)650mm.

8	Supplying, and placing in position					
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of 360-degree revolving high back chair as per Image. The premium upholstery is an added touch of extra class. With its supple leather upholstery. Equipped with a multi-locking knee tilt mechanism and adjustable arms this chair is is high on back support and comfort. Size: (W)610mm X (D)500mm X (H)1300mm Leather: Semi Aniline Leather, Function: Revolving: Pneumatic Height Lift: Adjustable Armrest: Multi locking Knee Tilt, Maximum Seating Height: 24", Minimum Seat Height: 20.86", Base: Chrome Base, Locking Mechanism: Multi-Locking Knee Tilt. The pneumatic height adjustment shall have adjustment stroke of 100 mm and shall be operated at 30kgs extension force. The Seat are made up of 12mm thick hot-pressed plywood upholstered with PVC with polyurethane foam, chair seat has foam of density 30-32 kg/m3. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

220	Main Chair for GM Cabin	1	NUM	32,000.00	32,000.00	
9	Supplying, and placing in position					

of 360-degree revolving medium back chair as per Image. The premium upholstery is an added touch of extra class. With its supple leather upholstery. Equipped with a multi-locking knee tilt mechanism and adjustable arms this chair is is high on back support and comfort.t.Dimension (W)640mm X (D)500mm X (H)1130mm, Leather: Semi Aniline Leather, Function: Revolving::Pneumatic Height Lift::Adjustable Armrest::Multi locking Knee Tilt, Maximum Seating Height: 24",Minimum Seat Height: 20.86", Base :Chrome Base, Locking

Item : 3 - Furniture

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Mechanism: Multi-Locking Knee Tilt. The pneumatic height adjustment shall have adjustment stroke of 100 mm and shall be operated at 30kgs extension force. The Seat are made up of 12mm thick hot-pressed plywood upholstered with PVC with polyurethane foam, chair seat has foam of density 30-32kg/m3. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

240	Visitor Chair for GM Cabin	3	NUM	30,000.00	90,000.00	
10	Side Storage for GM Cabin					
260	Supplying, and placing in position					

of low height storage @750mm height as per photograph/drawing. The storage unit having Openable shutters with shelf in it. The modular storage unit top shall be made from 18 mm thick pre-laminated particle board and rest of the sides as well as shelves and shutter to be made up of 18 mm thick pre-laminated particle board while back to be made of 8 mm thick pre-laminated particle board. All edges to be provided with 2 mm thick PVC lipping. The storage unit having openable shutters with D shape handles & locking arrangement. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

270	Dimension: 900mm(L) X 450mm(D) x 750mm(H)	1	NUM	14,800.00	14,800.00	
11	Main Table for Cabin's					
290	Providing and placing of main table					

as per image/drawing. Modular tables of size 1350mm(L) x 600mm(D) x 750mm(H). Table top are made up of 25mm thick pre-laminated particle board and understructure shall be made of 18mm thick pre-laminated particle board gable ends and modesty panels. The working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt glue at hot temperature. Provision of one CPU trolley and PVC keyboard tray attached to the table top. The table shall be provisioned with free standing Side Storage of size 900mm L x 450mm D x 750mm Ht., Storage Top are made out of 25mm thick pre-laminated particle board and rest all storage to be made out of 18 mm thick pre-laminated particle board. Storage having a sliding shutter with D shape handles and central locking arrangement. All exposed edges shall be provided with machine pressed 2 mm thick PVC lipping glued with hot melt EVA glue. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

300	Main Table Dimension:	6	NUM	45,000.00	270,000.00	
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1350mm(L) X 600mm(D) x 750mm(H).

Side Runner Dimension: 900mm(L) X 450mm(D) x 750mm(H).

12	Supplying and placing in position of					
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360 degree Revolving High back chair of size (W)600mm X (D)660mm X (H)1275mm as per image. The moulded backrest conforms to the natural curvature of the spine for optimum lumbar support. The Synchro Single Locking Mechanism, Tilt Tension Control along with the adjustable headrest further work to provide an ultimate ergonomic experience. The solid chrome base provides extraordinary support while the 55mm castors help in an easy smooth movement. Premium high-density virgin foam for comfortable seating. Adjustable armrest & headrest with Synchro Single Locking and Tilt tension control for improved mobility. chrome base with 55mm castors for increased stability and non-friction movement. Function Revolving: Pneumatic Height Lift: Tilt Tension Control: Synchro single locking. The Seat & back are made up of 12mm thick hot-pressed plywood upholstered with PVC with polyurethane foam, chair seat has foam of density 32-35 D. The backrest has a foam of 28D. The product should be from the manufacture which have FSC Certification, BIFMA

Item : 3 - Furniture
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

320	Main Chair for Cabin's	6	NUM	15,100.00	90,600.00	
13	Supplying and placing in position					

of 360 degree Revolving medium back chair of size (W)600mm X (D)660mm X (H)1080mm as per image. The moulded backrest conforms to the natural curvature of the spine for optimum lumbar support. The Synchro Single Locking Mechanism, Tilt Tension Control further work to provide an ultimate ergonomic experience. The solid chrome base provides extraordinary support while the 55mm castors help in an easy smooth movement. Premium high-density virgin foam for comfortable seating. Adjustable armrest and headrest with Synchro Single Locking and Tilt tension control for improved mobility. Chrome base with 55mm castors for increased stability and non-friction movement. Function Revolving: Pneumatic Height Lift: Tilt Tension Control: Synchro single locking. The Seat & back are made up of 12mm thick hot-pressed plywood upholstered with PVC with polyurethane foam, chair seat has foam of density 32-35 D. The backrest has a foam of 28D. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

340	Visitor Chair for Cabin's	12	NUM	13,850.00	166,200.00	
14	Medium height Storage for Cabin's					
360	Supplying, and placing in position					

of Medium height storage @1200mm height as per photograph/drawing. The storage unit having Openable shutters with shelf in it. The modular storage unit top shall be made from 18 mm thick pre-laminated particle board and rest of the sides as well as shelves and shutter to be made up of 18 mm thick pre-laminated particle board while back to be made of 8 mm thick pre-laminated particle board. All edges to be provided with 2 mm thick PVC lipping. The storage unit having openable shutters with D shape handles & locking arrangement. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

370	Dimension:1200mm(L) X 450mm(D)x 1200m(H)	6	NUM	31,700.00	190,200.00	
15	Linear Workstation					
390	Supplying and placing in position					

of sliding tile base modular Workstation as per photograph/drawing. Free standing partition height 1200mm and should be minimum of 65-67mm thick. Partition inner frame is 1.1-1.2 mm thick mild steel. Horizontal and vertical trims are made out of extruded aluminum of 1.mm thick. All Panels/trims shall be powder coated with 50 microns. Aluminum trims are elegantly fixed with special fixtures in the partition. The frame work shall be fitted with 9mm thick pre-laminated Particle tiles of approved shade. Partition shall have provision for pin up board with fabric/ white marker/ laminated of approved shade. Partition framework shall have adequate provisions for the movement of electric data cables at desired 2 levels; one at skirting and another above / below the table top. The complete partitioning work shall be carried out as per the approved drawing. Tabletop for workstation made up of 25mm thick pre-laminated Particle board of approved shade. The worktop shall be supported on minimum 2mm thick powder coated CRCA brackets and side panels. Side#s panels should be made from 18mm thick pre-laminated Particle board of approved shade. All working or non-working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt glue at hot temperature. Provision of one PVC keyboard tray and Metal CPU trolley with lockable castors for each seating. Also, a provision of Mobile Pedestal Unit (size: - L-400mm x D-450mm x H-600mm) with a combination of 2 drawer & one filing drawer. The pedestal storage unit shall be made of 18 mm thick prelaminate Particle board with provision of handles & central Locking arrangement. The product should be from the manufacture which have

Item : 3 - Furniture
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

400	Dimension:1650mm(L)X600mm(D)X1200mm(H)	2	NUM	77,000.00	154,000.00	
16	Supplying and placing in position					

of 360 degrees Revolving Medium Back chair of size: - (W)660mm X (D)510mm X (H)1060mm as per image. The backrest is fitted with taut breathable mesh for optimal support with an adjustable lower back support. The seat cushion stays firm on the sleek chrome base with sturdy nylon castors. Upholstered in soft black fabric the seat cushions comfort. Powered by a pneumatic gas lift and tilt tension control the chair offers superb ergonomic support for your body. Mechanism: Tilt Tension Control, Adjustable Armrest. The pneumatic height adjustment shall have adjustment stroke of 100 mm and shall be operated at 30kgs extension force. The Seat are made up of 12mm thick hot-pressed plywood upholstered with PVC with polyurethane foam, chair seat has foam of density 32-35 kg/m3. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

420	Workstation Chair	2	NUM	15,300.00	30,600.00	
17	Medium height Storage for Cabin's					
440	Supplying, and placing in position					

of Medium height storage @1200mm height as per photograph/drawing. The storage unit having Openable shutters with shelf in it. The modular storage unit top shall be made from 18 mm thick pre-laminated particle board and rest of the sides as well as shelves and shutter to be made up of 18 mm thick pre-laminated particle board while back to be made of 8 mm thick pre-laminated particle board. All edges to be provided with 2 mm thick PVC lipping. The storage unit having openable shutters with D shape handles & locking arrangement. The product should be from the manufacture which have FSC Certification, BIFMA Compliance Certification, GREENGUARD/Green Pro Compliance Certification, Sedex Certification, AIOTA Certification and from the approved make of Durian, Godrej, HNI. The product should be as per above given specification under the guidance of project architect & Engineer in charge.

450	Dimension: 3250mm(L)X450mm(D)x1200mm(H)	1	NUM	85,500.00	85,500.00	
460	Dimension: 3400mm(L)X450mm(D)x1200mm(H)	1	NUM	89,500.00	89,500.00	

Work Order Item 00003 Basic Item Value : INR 2,571,400.00
(RUPEE TWO MILLION FIVE HUNDRED SEVENTY-ONE THOUSAND FOUR HUNDRED ONLY)
Total Tax = 462,852.00
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 3,034,252.00

Item : 4 - LAN Networking
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
10	Data & Telephone Network					
A1	Supply, Installation, testing	32	NUM	680.00	21,760.00	

and commissioning of Cat6A Tool less Information outlet for Data & Voice. Cat6A U/UTP built in crimping

Item : 4 - LAN Networking
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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mechanism with capability of retermination without refreshing the wires. LCS2 Toolless RJ45 Information outlet with insertion cycle (in & out) should be 2500 times (I/O) along with front side Label holder and transparent shutter. The Information Outlet connector shall be of gold/nickel, thickness of gold > 0.8 #m. The connectors shall be compatible as per IEEE 802.3af standard for POE application. Make-Siemon/Panduit/Legrand.

A2	SITC of Double port Face Plate :	6	NUM	110.00	660.00	
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Polycarbonate Hi-Grade Plastic FR Grade & UV Resistant 850-degree C/ Glow Wire Test. The face plate should be compatible for Cat5e, Cat6 range of RJ45 and AV connectors. The face plate Size should be of minimum 86x86mm Make-Siemon/Panduit/Legrand.

A3	SITC of Quard port Face Plate :	10	NUM	125.00	1,250.00	
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Polycarbonate Hi-Grade Plastic FR Grade & UV Resistant 850-degree C/ Glow Wire Test. The face plate should be compatible for Cat5e, Cat6 range of RJ45 and AV connectors. The face plate Size should be of minimum 86x86mm Make-Siemon/Panduit/Legrand.

A4	Supply, Installation, testing	2	NUM	14,500.00	29,000.00	
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and commissioning of 24 port Cat 6A 19" Modular Toolless Patch Panel (loaded) enable all possible combinations of the various types of cable. mounted on the same panel by using various toolless connector blocks/modules. Have a metal structure enabling them to be durably fixed to the uprights of the 19# chassis and assuring automatic grounding between toolless RJ-45 connectors, the panel, and the 19# uprights of the enclosure. Include rear cable support with plastic cable guides to hold cable without need for cable ties. Include quick mounting system to mount the panel into the 19# rails without use of cage-nuts. Front Removal IO's option for maintenance and troubleshooting with 6 Different Colours Labels for Labelling & Identification of Individual Ports. Tested and guaranteed under dual circuit IEEE PoE+ up to 50W for up to 2500 on-load connections / disconnections. Make-Siemon/Panduit/Legrand.

A5	Supply and drawing of UTP 4 pair	500	M	80.00	40,000.00	
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23 AWG CAT 6A LSZH Cable in the existing surface/ recessed steel/ PVC conduit as required conforming to the following standards like ANSI/TIA 568 C.2, IEC 60332-1, IEC 60754-1. Cable Dia 8.0 mm with beneding radius -4 X Cable Diameter Operates at frequency of 500 Mhz. Make-Siemon/Panduit/Legrand.

A6	Supply, Installation, testing	32	NUM	345.00	11,040.00	
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and commissioning of CAT6A UTP 24 AWG Patch Cord - 1 mtr with cross separator, Manufactured from stranded wires for longer flex-life, Minimum length of 1m, and maximum length of 5m Conforming to the following standards like EN 50173, ISO/IEC 60603-7 & 11801/IEC 60332-1, UL VW-1 Make-Siemon/Panduit/Legrand.

A7	Supply, Installation, testing	32	NUM	395.00	12,640.00	
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and commissioning of CAT6A UTP 24 AWG Patch Cord - 2 mtr with cross separator, Manufactured from stranded wires for longer flex-life, Minimum length of 1m, and maximum length of 5m Conforming to the following standards like EN 50173, ISO/IEC 60603-7 & 11801/IEC 60332-1, UL VW-1 Make-Siemon/Panduit/Legrand.

A8	Supplying, Installation, Testing	2	NUM	189,000.00	378,000.00	
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& Commissioning of 24 port 10/100/1000BASE-T#PoE+ ports and four GbE/10GbE SFP/SFP+ uplink ports layer3#and layer 2 from day1 having static & RIP, should support at least 8 switches stack, should support redundant power supply and fan, 3 Year OEM on site NBD warranty. Please refer tender for detailed Tech Specifications. Make: Juniper/Cisco/Extreme.

A9	Supplying & Fixing of Fiber	1	NUM	10,000.00	10,000.00	
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Optic LC style fully loaded Patch Panel (FOPP), 19" Rack Mount, shall have all accessories including coupler plates pre-loaded with 24 Nos of LC couplers (OM3) with all accessories complete in all respect. Pigtails Should Complie to ITU-G657.B-Bend inestive fiber. Make-Siemon/Panduit/Legrand.

A10	Supplying & Fixing of Fiber	2	NUM	3,000.00	6,000.00	
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Optic Patch Cable (LC-LC), 3 Mtrs. Long, ISO/IEC-11801-OM3 50# Duplex, LSZH, all patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801, shall be Duplex Multi Mode Fiber Optic Patch Cords OM3

Item : 4 - LAN Networking
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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50#, shall support network line speeds up to 10 Gbps. Shall have LC-LC Connector connectors at the ends complete in all respect. Make-Siemon/Panduit/Legrand.

A11	Supply & Fixing of OM3 50/125#	12	NUM	400.00	4,800.00	
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Type Pigtaills of ISO/IEC-11801-OM3 Pigtaills with LC Type Connectors, pigtaills for terminating fibers on the FOPP complete in all respect. Make-Siemon/Panduit/Legrand.

A12	Supplying, Installation, Testing	100	ZRM	150.00	15,000.00	
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& Commissioning of 50#, 6-core Multi mode OM3 metallic armored Fiber cable as per ISO/IEC-11801, Shall be able to meet Gigabit & 10 Gigabit Ethernet performance up to 300 meters requirement specified by IEEE 802.3z (1000 Base-X) & IEEE 802.3ae (10G Base-X) Tensile load should be 4000 Newton or higher and crush resistance should be 4000 Newton or higher, The attenuation @ 850 nm should be # 2.7 (Max) db/Km and @ 1300 nm should be # 0.7 (Max) dB/Km, the fiber construction can be unitube or multitube, but tensile and crush resistance parameters should be matched, the jacket shall be FRLSZH complete in all respect. Make-Siemon/Panduit/Legrand.

A13	Enclosure: 24 U Floor Standing Rack	1	NUM	37,000.00	37,000.00	
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& Modular Construction of the rack made of 4 vertical, 4 horizontal & 4 depth aluminum/MS bolted and joined together with Links and Corner Block. Enough support channel to equate the load evenly and castor provision at bottom side, Degree of Protection: The unit should have a minimum of IP 20, Compliance with standards: UL, IEC, Earthing: All cabinet components (doors, side panels, top panels, 19# rails, pdu brackets) shall be grounded directly to the frame using Dual Copper plated earth stud of suitable rating on main Metal parts for better electrical continuity, Weight Capacity: Load Capacity of minimum 1200 Kg, Coating: Powder coated black with fine texture # 60 to 80 uM, Corrosion Resistance: Salt spray test resist up to 500 Hrs, Top and Bottom: Top cover consist of Fire Retardant Brushes and Fire retardant ABS plastic / MS# frame for cable and fiber entry to rack from fiber runner and copper cable pathway system. This consists of Brush with 2 line of brush system UL Certified Fire-Retardant Brushes and Fire-retardant ABS plastic / MS frame, Mounting Angle: 19"Upright adjustable in depth, equipment mounting angles with square slots to accommodate M6 cage nuts, powder coated texture finish.# It contains U printing pattern which can be read from down to up and vice versa, Mounting Angle: 19"Upright adjustable in depth, equipment mounting angles with square slots to accommodate M6 cage nuts, powder coated texture finish. It contains U printing pattern which can be read from down to up and vice versa, Castor: Set of 4 castors with levelling feet, 2 brakes on front side and 2 without brakes, Mounting Hardware Packets with set of M 6 screw, Cage Nuts and Washer set of 10 or 20, Network Rack: 24U 800W x 1200D (Height x Width x Depth) ,Single Honeycomb/ Perforated door (Front Side), Double Honeycomb/ Perforated door (Rear Side), Zero U tool-less mounting PDU. 2 no PDU, 230 V AC-2 no. for each PDU, 18 no of 6 AMP socket (c13 type);6 no of 16Amp socket (c19 type) with 2 no of MCB 16/32 Amp. PDU of standard make like APC, Schnider, 4 no of cooling fan. Make: APW/Wellrack/Rittle.

Work Order Item 00004 Basic Item Value : INR 567,150.00
(RUPEE FIVE HUNDRED SIXTY-SEVEN THOUSAND ONE HUNDRED FIFTY ONLY)
Total Tax = 102,087.00
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 669,237.00

Item : 5 - Fire Alarm System & PA
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	Supplying, installation, testing					

and commissioning of microprocessor based intelligent addressable main fire alarm panel, central processing unit

Item : 5 - Fire Alarm System & PA
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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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 nonvolatile 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.

1.1	2loop	1	SET	230,000.00	230,000.00	Y#
2	Supplying, installation, testing	8	NUM	2,400.00	19,200.00	

& commissioning of intelligent analog addressable Photothermal/Multicriteria Detector detector complete with mounting base complete as required.

3	Supplying, installation, testing	1	NUM	3,700.00	3,700.00	
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& commissioning of addressable manual call point complete as required.

4	Supplying, installation, testing	1	NUM	5,100.00	5,100.00	
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& commissioning of addressable horn cum strobe complete as required.

5	Supplying, installation, testing	1	NUM	3,600.00	3,600.00	
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& commissioning of addressable fire control module complete as required.

(For AHU, Ventilation and pressurization fans)

6	Supplying, installation, testing	1	NUM	3,600.00	3,600.00	
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& commissioning of addressable fire Control/Monitor module complete as required.

7	Supplying, installation, testing	5	NUM	250.00	1,250.00	
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& commissioning of response indicator on surface/recessed MS Box having two LED, metallic cover complete with all connections etc as required.

8	Supplying and installation of photo	2	NUM	3,200.00	6,400.00	
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luminescent safety signage made up of LED based exit signage with 90 min. battery backup as per NBC including arrangement for fixing on wall / ceiling etc. complete as required (single sided) (size 150 mm x 300 mm) Exit Sign and Internal Hydrant illuminated Sign.

9	PUBLIC ADDRESS SYSTEM					
9.1	Supplying, installation, testing	3	NUM	1,100.00	3,300.00	

& commissioning of 1.5/3/6W ceiling speaker complete as required.

9.2	2 x 1.5 sq.mm	200	M	65.00	13,000.00	
9.3	Supplying and fixing 25 mm	20	M	40.00	800.00	

dia MS flexible pipe with PVC

coating along with all ancillaries and accessories like coupler etc. as required.

Work Order Item 00005 Basic Item Value : INR 289,950.00
(RUPEE TWO HUNDRED EIGHTY-NINE THOUSAND NINE HUNDRED FIFTY ONLY)
Total Tax = 52,191.00
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 342,141.00

Item : 6 - AV System in Meeting Room
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR
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Item : 6 - AV System in Meeting Room
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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A	Audio Visual System in Meeting Room					
1	Supply, Installation, Testing	1	EA	525,000.00	525,000.00	

& Commissioning of 85" diagonal, 20 pt IR touch, UHD, wide color gamut panel, LED backlight, 24x7 reliability, metal bezel, landscape and portrait, wide array of inputs, OPS slot, 700 nit brightness, speakers, RS232 and LAN control Single Touch Mark key included. Make-Planar/Onfinity/NEC.

2	Supply, Installation, testing	4	EA	26,000.00	104,000.00	Y#
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and commissioning of two-way, thin edge ceiling speaker with back can, built in cone driver, Line Transformer Tapping's: 60watt - 30watt, Sensitivity: 86dB, Sound Pressure: 106dB, Dispersion Conical: 145° or more, Frequency Response: 90 Hz - 20 kHz, Frequency range: 65 Hz - 20 kHz etc. complete required as per specifications. Approved Make: OSL/OHM/ British Acoustics/ LAcoustics.

3	Supply, Installation, testing	1	EA	86,250.00	86,250.00	
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and commissioning of digital power amplifier, class-D, RMS power: 2 X 120watt, Frequency Response: 50 Hz - 22 kHz, Signal / Noise: > 100 dB, THD+ N: < 0.3%, Crosstalk: < 80 dB, Power Supply: Switching mode, Common mode rejection ratio: 70dB, Protection: DC Short circuit; Overheating; Over load; Signal limiting, built in temperature-controlled fan etc. complete required as per specifications. Approved Make: OSL/OHM/ British Acoustics/ LAcoustics.

4	Supply of Digital 2 in 6 out	1	EA	179,000.00	179,000.00	
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Installation Controller. Spyder Software DSP control via USB. 10-PEQ, peak limiting, 2 sec delay, matrix and crossover Approved Make: OHM/ British Acoustics/ OSL/ LAcoustics/ D&B.

5	Supplying, Installation, Testing	1	EA	175,000.00	175,000.00	
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and commissioning of Touch Panel Control System should be equipped with at least 8 bidirectional RS-232 serial ports (Internal/external module acceptable), at least 8 IR/Serial ports, at least 4 or more Digital I/O ports, at least 4 or more low voltage relays for controlling room functions, at least 1 Ethernet monitoring and control port, Memory: 512MB SDRAM, 4 GB Flash or more etc.as required.

6	Supply, Installation, testing	1	EA	85,000.00	85,000.00	
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and commissioning of 10.1 in. Room Scheduling Touch Screen TFT active matrix color LCD, Aspect Ratio 16:10 WXGA, Resolution 1280 x 800 pixels, Brightness 400 nits (cd/m²), Contrast 950:1, Ethernet 100 Mbps, auto switching, auto negotiating, auto discovery, full/half duplex, TCP/IP, client, IEEE 802.3at compliant USB 2.0 host for light bar or hallway sign, 1,5, Bluetooth.

7	Supply, Installation, testing	2	EA	15,000.00	30,000.00	
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and commissioning of Cable Manager with 1 no. multi region AC Power socket, 1x USB power, Black anodized

/ brushed aluminium finish, Tilt up lid with pass through holes for 1 HDMI, 1 VGA with audio, 1x LAN complete etc. as required. Make-Crestron/Satellier/RG Spectrum.

8	Supply Instalation Testing	1	EA	185,000.00	185,000.00	
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& Commissioning of 4 x 4 HDMI Matrix Switcher with HDCP Compliant, HDMI and HDCP as per technical specification. Input and Output: supporting 8 signal input and 8 signal outputs simultaneously. Make-Crestron/Satellier/RG Spectrum.

9	Supply and Laying of 2.5 Metres	4	EA	2,500.00	10,000.00	
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HDMI patch cord with connectors in existing conduit i/c testing etc. as required. Make-Crestron/Satellier/RG Spectrum.

10	Supply and Laying of 1.5 Metres	5	EA	3,000.00	15,000.00	
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HDMI patch cord with connectors in existing conduit i/c testing etc. as required. Make-Crestron/Satellier/RG Spectrum.

11	Supply and Laying of 16 AWG	50	M	100.00	5,000.00	
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2 core speaker cable with connectors in existing conduit i/c testing etc. as required.

Item : 6 - AV System in Meeting Room
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Make-Kramer/Polycab/Beldon.

12	Supply and Laying of 24 AWG	50	M	110.00	5,500.00	
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or better shielded CAT 6 cable with suitable connectors in existing conduit i/c testing etc. as required.
Make-Panduit/Legrand/Corning.

13	S/F of network rack of size 19"having	1	EA	33,000.00	33,000.00	
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24U for supporting equipment's pertaining to sound system with front/rear lockable doors i/c providing caster wheels and all other accessories for easy storatation and movement etc. complete as required.
Make-VALRACK/APW/RITTAL.

Work Order Item 00006 Basic Item Value : INR 1,437,750.00
(RUPEE ONE MILLION FOUR HUNDRED THIRTY-SEVEN THOUSAND SEVEN HUNDRED FIFTY ONLY)
Total Tax = 258,795.00
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 1,696,545.00

Item : 7 - Control Room Interior
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	Control Room Interior					
1	SUPPY AND FIXING of Modular Rigid	71.910	M2	36,000.00	2,588,760.00	

PVC Metal Panelling

1) Factory made removable type self inter lockable metal panels with front sheet of Preformed Textured Hot dip galvanized sheet with rigid polyvinylchloride (PVC) film on one side and on the other side a coating to avoid rust (sheet thickness 0.6mm & PVC Coating at least 0.11mm). The back cover of the panel shall be made up of 0.6mm thick CRCA/GI sheet of approved colour. The panelling design shall comprise of specially designed combination of perforated and non-perforated panels through CNC laser Cutting, bending & punching. Panels shall be designed to achieve shape and design as per the design consultant and shall be fixed using GI/CRCA hook fitting on structure. Overall system thickness for panelling shall be 60mm to 90mm and for partition shall be 70mm to 120mm.

2) Tiles Perforation # To achieve acoustics without deteriorating the aesthetical appeal of the control room it is necessary that the wall panelling shall have micro-perforations (less than 1.6mm diameter each) all over the surface with a density of 5000 holes per square feet. UL audit certified design feature on modular wall panelling tile having clean perforations and providing smooth finish on front fascia of tiles. The tile shall have 5000 holes per square feet on front side of the tile. Valid UL audit certificate to be submitted along with the technical bid.

3) The modular metal panelling shall comply to the lead-free directive to ensure restriction of hazardous substances so that the final product does not contaminate the environment. The final product i.e., modular metal panelling does not contain hazardous substances and we give a healthy life to our coming generations it is necessary that the modular metal panelling system shall be RoHS certified/tested (from UL / Intertek). Valid certificate/test report to be submitted along with the technical bid.

4) From fire safety point of view the metal wall panelling tiles shall be class A fire rated as per the norms of comparative measurements of surface flame spread and smoke density measurements with that of select grade red oak and fibre-cement board surfaces under the specific fire exposure conditions. The proposed wall panelling tiles shall be Class A certified/tested as per ASTM e84 (from UL/Intertek) for surface spread of flame and smoke generation. This is mandatory to ensure that the materials used in the interiors do not provoke fire. Valid certificate/test report to be submitted along with the technical bid.

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5) Seismic safety of user & control room equipment is a prime concern area. The metal panelling shall sustain the seismic vibrations as per design spectrum IS 1893 for zone 4 or better vibrations. The test shall be carried out by authorized government agency. Test Report to be submitted along with the technical bid.

6) The wall panelling shall be robust & strong enough to sustain the routine loads/minor impacts of typical control room environment. The wall panelling/partition structure shall have UL Audit certified feature of Load bearing capacity of 300 Kgs to hold any display unit on clamp having minimum length of 750mm. Valid UL audit certificate to be submitted along with the technical bid.

7) As control room is a mission critical area and in an unlikely case of damage to the existing wall panelling tiles the same shall be replaceable within 20 seconds and thereby preventing loss of time of operators and ongoing operations. UL Audit certified feature of Modular wall panelling tile having secure locking arrangement for equidistant mounting. Locking arrangement enables easy replacement without using any tool within 20 seconds. The feature shall provide easy flexibility of locking all tiles in one column through gravity. Valid UL audit certificate to be submitted along with the technical bid.

8) Structure shall be made from modular, heavy-duty powder coated CRCA frame (minimum sheet thickness 1mm) and shall allow uninterrupted flow of wires/cable/tubes of maximum diameter 25mm.

2	SUPPLY AND FIXING of Printed Metal	2.420	M2	63,000.00	152,460.00	
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Panelling

1) The printed panelling shall have the same technical specifications as that of modular rigid PVC metal panelling (Wall Finishing - Sr No. 1 modular rigid PVC metal panelling). However, in addition to it, the front tile shall be digitally printed. Graphics shall be approved by the Customer.

2) Digital printing shall be done on modular metal Panelling. Pasting stickers/flex/vinyl on metal tile shall be deemed unacceptable.

3) The structure shall be made from a modular, heavy-duty powder-coated CRCA frame (minimum sheet thickness 1mm) and shall allow an uninterrupted flow of wires/cable/tubes of maximum diameter 25mm.

4) The structure shall be securely connected from wall, roof and floor. It shall be made up of a minimum of 1mm thick vertical slotted rolled C sections (Upright) and horizontal rolled #C# connectors. Grid of the desired dimension shall be formed by Vertical and horizontal sections having 20 to 50mm pitch.

5) For Structure: - Powder coated CRCA steel sheet. (Sheet thickness minimum 1.0mm with powder coating).

3	SUPPLY AND FIXING of Designer Metal	19.420	M2	48,000.00	932,160.00	
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Paneling with Designer Triangular tiles and integrated light

All the properties shall be like straight metal paneling and it shall have Designer Triangular tiles and integrated light.

4	SUPPLY AND FIXING of Modular	5.570	M2	47,000.00	261,790.00	
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metal acoustic batten paneling

Modular acoustic metal batten paneling of extruded aluminum with #T-groove for click-on system#. Extruded Aluminum must be finished with PVC free material and Textured wooden finish shall be provided. Sublimation/Heat transfer method shall not be used to achieve better scratch resistance.

Die casted click on joinery shall be used with spring system for fixing to be used for improved rigidity. The structure system shall have grooves to insert polyethylene terephthalate acoustic board.

The paneling shall have superior acoustics and shall adhere to the highest health and safety standards. Same system can be installed on curvilinear wall as per the design requirements.

5	SUPPLY AND FIXING of Designer	32.050	M2	93,000.00	2,980,650.00	
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cladding made up of Alumina Tri-Hydrate and integrated light

The material must be fire retardant, Insulated, Water Proof, Scratch resistance and high hardness. Thickness of the cladding shall be minimum 6mm thick material. This is to give a grand look to the cladding. The structure shall be modular to ensure easy maintenance and replacement.

6	SUPPLY AND FIXING of Curve/Bend	28.060	M2	81,000.00	2,272,860.00	
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Modular Rigid PVC Metal Partition

The material of construction and technical specification shall remain the same as per modular rigid PVC metal paneling (Wall Finishing - Sr No. 1 modular rigid PVC metal paneling) however, the shape shall be a perfect

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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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curve to provide more space for mounting of the LED. Paneling's curve shall be achieved by curved tiles only. Curvilinear arrangement using straight tiles shall be deemed unacceptable, however in partition the cladding shall be done on both side of the section/grid work. Factory made removable type self inter lockable metal panels with front sheet of Preformed Textured Hot dip galvanized sheet with rigid polyvinylchloride (PVC) film on one side and on the other side a coating to avoid rust (sheet thickness 0.6mm & PVC Coating at least 0.11mm). The back cover of the panel shall be made up of 0.6mm thick CRCA/GI sheet of approved colour. The paneling design shall comprise of specially designed combination of perforated and non-perforated panels through CNC laser Cutting, bending & punching. Panels shall be designed to achieve shape and design as per the design consultant and shall be fixed using GI/CRCA hook fitting on structure. Overall system thickness for paneling shall be 60mm to 90mm and for partition shall be 70mm to 120mm.

7	SUPPLY AND FIXING of Modular	27.600	M2	66,000.00	1,821,600.00	
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Rigid PVC Metal Partition

The material of construction and technical specification shall remain the same as per modular rigid PVC metal paneling (Wall Finishing - Sr No. 1 modular rigid PVC metal paneling) however, in partition the cladding shall be done on both side of the section/grid work. Factory made removable type self inter lockable metal panels with front sheet of Preformed Textured Hot dip galvanized sheet with rigid polyvinylchloride (PVC) film on one side and on the other side a coating to avoid rust (sheet thickness 0.6mm & PVC Coating at least 0.11mm). The back cover of the panel shall be made up of 0.6mm thick CRCA/GI sheet of approved colour. The paneling design shall comprise of specially designed combination of perforated and non-perforated panels through CNC laser Cutting, bending & punching. Panels shall be designed to achieve shape and design as per the design consultant and shall be fixed using GI/CRCA hook fitting on structure. Overall system thickness for paneling shall be 60mm to 90mm and for partition shall be 70mm to 120mm.

B	Non Fire Rated (Glass Partition & Doors)					
1	SUPPLY AND FIXING of 10mm Toughened	16.900	M2	192,000.00	3,244,800.00	

Switchable Glass Partition Material with Switchable Smart functionality:

Switchable glass is an electrical component and shall be covered in the electrical layout including the provision of fused spurs, switches, cable management and electrical connection boxes. Including full glass partitions of minimum 10 mm thick clear toughened glass, structural support system for top and bottom including holding system from RCC slab above false ceiling, including runner hung anchor fastener to fix it. Rubber interlinear & gaskets to fix bottom into SS "U" channel in floor. silicon sealant to filled gap.

2	SUPPLY AND FIXING of Automatic	2	NUM	304,000.00	608,000.00	
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Door covered with Preformed Textured RIGID PVC Coated GI sheet: - Door Size: 1000mm X 2400mm

With door hinges and locking arrangements and both way handle. Prepare with rigid thermo fused film metal panels. Specification: 0.6mm thick Metal panel sheets, internal cavity filled with adequate quantity of honeycomb. Material of the partition and that of metal door will remain the same. Material of the partition and that of metal door will remain the same. The door thickness shall be minimum 45mm and frame thickness shall be minimum 115mm.

3	SUPPLY AND FIXING of Designer Metal Door	2	NUM	74,400.00	148,800.00	
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covered with Preformed Textured RIGID PVC Coated GI sheet: - Door Size: 1000mm X 2400mm

With door hinges and locking arrangements and both way handle. Prepare with rigid thermo fused film metal panels. Specification: 0.6mm thick Metal panel sheets, internal cavity filled with adequate quantity of honeycomb. Material of the partition and that of metal door will remain the same. Material of the partition and that of metal door will remain the same. The door thickness shall be minimum 45mm and frame thickness shall be minimum 115mm.

4	SUPPLY AND FIXING of Designer membrane	65.400	NUM	40,000.00	2,616,000.00	
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ceiling

1) The ceiling shall be supplied with demountable translucent stretch ceiling membrane with harpoon, corners

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ready to install. It shall not get discoloured & sag. All joints shall be provided with appropriate interface trims to be able to demount the ceiling to access the lights. The ceiling shall be installed using ceiling aluminium suspension system, complete as per manufacturer's installation guidelines and as per approved shop drawings in line with the design intent and approval by Architect/Engineer In-charge approval. LED strips shall be installed using custom aluminium extrusions to ensure longevity of the installation. The ceiling shall have following features and properties: -

- 2) Simple and maintenance friendly: Installed in a few hours and finished product shall not require any taping, spackling, or painting, and shall be easily cleanable.
- 3) Durable: The systems shall resist shocks and shall not crack with movement or under stretch conditions.
- 4) Safe: The membranes and profiles shall have passed the stringent fire and safety tests.
- 5) The membrane shall have been classified as non-toxic upon burning. The Flexible membrane shall be b-s1-d0 / ASTM E-84 class A tested/certified.
- 6) Green: Membranes shall be 100% recyclable.
- 7) There shall not be any welding defect on Membranes for years to come on the perimeter edging or in the seams.

5	SUPPLY AND FIXING of Modular metal	18.020	NUM	36,800.00	663,136.00	
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acoustic batten ceiling

Modular acoustic metal batten ceiling of 1#x1# made up of extruded aluminium with #click-on system#. Textured wooden finish shall be provided. Sublimation/Heat transfer method shall not be used for better scratch resistance. Click on joinery shall be used for fixing to be used for improved rigidity. The structure system shall have grooves to insert polyethylene terephthalate acoustic board. The ceiling shall have superior acoustics and shall adhere to the highest health and safety standards.

6	Supply and fixing of Designer metal	22.200	NUM	11,500.00	255,300.00	
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ceiling of powder coated tiles

- 1) Designer metal ceiling made up of perforated and non-perforated CRCA powder coated tiles
- 2) The proposed ceiling metal tiles shall be Class A certified/tested as per ASTM e84 (from UL / Intertek) for surface spread of flame and smoke generation. This is mandatory to ensure that the materials used in the interiors do not provoke fire. The necessary certificate / test report to be submitted along with the technical bid.
- 3) The ceiling shall have a noise absorption coefficient (NRC) value of 0.60 according to IS:8225-1987, ISO: 354-1985 and ASTM 423-90. The necessary certificate / test report to be submitted along with the technical bid.
- 4) To ensure restriction of hazardous substances; so that the final product does not contaminate the environment and we give a healthy life to our coming generations it is necessary that the modular metal ceiling system shall be RoHS certified / tested (from UL / Intertek). The necessary certificate / test report to be submitted along with the technical bid.
- 5) Designer metal ceiling shall be green guard gold certified/tested from UL / Intertek. The necessary certificate / test report to be submitted along with technical bid.
- 6) The structure shall be made from a heavy-duty powder-coated CRCA steel sheet (minimum sheet thickness 0.8 to 1.6mm). It shall be securely grouted from the roof with help of an anchor fastener and GI self-threaded rods.

7	SUPPLY AND FIXING of Calcium	106.180	M2	2,400.00	254,832.00	
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Silicate Board Ceiling

Plain Calcium Silicate Acoustic Boards for false ceiling with 08mm Approximately thick, Structure for underside of suspended grid formed of GI perimeter channels. Wood screws and metal expansion raw plugs for fixing with wall. Plastic emulsion paint of approved make and shade for finishing surface of Calcium Silicate Boards. Specification: Calcium Silicate Board is manufactured from a mixture of Portland cement, fine silica, special cellulose fibers and selected fillers to impart durability, toughness, fire and moisture resistance.

C	Static Lights					
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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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- 1) The baffles shall be made up of CRCA powder coated sheet. These baffle planks shall be bent through CNC to have dimensions as 80X50mm or as per the design approval or as per EIC approval.
- 2) Centre to Centre distance shall be minimum 150mm.
- 3) To ensure restriction of hazardous substances; so that the final product does not contaminate the environment and we give a healthy life to our coming generations it is necessary that the metal ceiling system shall be RoHS certified/tested (from UL / Intertek).
- 4) It is well known that metal is resistant to fire as compared to wood & fabric. However, from fire and safety point of view, to ensure that the used material is not subjected to any kind of surface treatment which provokes fire. The proposed ceiling tiles shall be class A certified/tested as per ASTM e84 (from UL / Intertek) for surface spread of flame and smoke generation. This is mandatory to ensure that the materials used in the interiors do not provoke fire.
- 5) Specifications (Finish and component details)
 - 5.1) Ceiling Baffle tile: minimum 0.7mm thick CRCA powder coated sheet.
 - 5.2) Carrier made of 0.60 mm CRCA steel sheet, powder coated to matching baffle colour or black as directed by the Customer. Ceiling to have arrangement to fix, hang and lock the baffles of required sizes and at required intervals. the size of punched carrier would be 35x20x35mm bent channel with holes for suspension and fixing secondary channel.
 - 5.3) The baffles top edge will have a flange of 5mm to fix in the carrier profile.
 - 5.4) Mother C Channel: minimum 0.8mm thick CRCA steel Sheet with Laser cut profiles.
 - 5.5) Suspension: The carriers would be placed at every 1200mm (maximum) and suspended by means of a secondary angle, channel fixed to the carrier at every 900 to 1200 mm and this secondary member in turn would be suspended by 8mm rod fixed to the slab by means of 8mm diameter, dash fastener.
 - 5.6) Top Clamp: 1mm thick CRCA steel sheet for holding the threaded rod.
 - 5.7 End Cap: minimum 0.75mm thick CRCA powder coated sheet. End cap similar to main ceiling baffle.
 - 5.8) Entire structure will be in powder coated CRCA sheet.
 - 5.9) Metal Strip where baffle planks will be hanged shall be sleek & sturdy.
 - 5.10) Color: As per approval.
 - 5.11) The ceiling shall have additional perforated sheet between adjacent baffles to conceal the above ceiling services (HVAC & firefighting services) and enhance the aesthetic appeal.

1	SUPPLY AND FIXING of Cove Light	229.180	M2	4,300.00	985,474.00	
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for Designer Ceiling (Static)

It will be a continuous rail of LED light, high brightness, neutral, or warm white with wall washing applications. Its slim profile and simple daisy-chain system allows high design flexibility to form long.

- 1) Light source: LED
- 2) Lumen output: 500 lm/m
- 3) Lifetime: 15000 burning hrs. (At L70)
- 4) Power consumption: 3W/m to 5W/m
- 5) Operating Voltage Range (V) 100 # 300
- 6) Operating Frequency (Hz) 50 ± 3%
- 7) Colour: White

2	SUPPLY AND FIXING of False Flooring	73.020	M2	16,000.00	1,168,320.00	
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- 1) Mandatory # Top Surface shall be acoustic laminate flooring. Height above the RCC floor # 450mm as per layout requirement.
- 2) The flooring shall be manufactured of fiber reinforced calcium sulphate panels having edges finished with PVC edge band and top surface shall be finished with durable & environment friendly acoustic laminate pasted with special glue. Tile size shall be 600mm X 600mm.
- 3) The Panel shall
 - 3.1) Have density of 1600KgM3.
 - 3.2) Fire resistance DIN EN 1366-6 2005-02.
 - 3.3) Core material thickness shall be minimum 30mm.

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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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- 4) The acoustic laminate shall be made up of twin-layer linoleum built up from 2mm Laminate.
5) This false floor panel shall rest on Edge support rigid grid system having Galvanized Iron base plate dimensions as 100mm X 100mm. The stringer shall be fixed on pedestal having height adjustment of ± 25 mm.

3	SUPPLY AND FIXING of False Flooring	135.360	M2	14,200.00	1,922,112.00	
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- 1) Mandatory # Top Surface shall be acoustic laminate flooring. Height above the RCC floor # 150mm as per layout requirement.
2) The flooring shall be manufactured of fiber reinforced calcium sulphate panels having edges finished with PVC edge band and top surface shall be finished with durable & environment friendly acoustic laminate pasted with special glue. Tile size shall be 600mm X 600mm.
3) The Panel shall
3.1) Have density of 1600KgM3.
3.2) Fire resistance DIN EN 1366-6 2005-02.
3.3) Core material thickness shall be minimum 30mm.
4) The acoustic laminate shall be made up of twin-layer linoleum built up from 2mm Laminate.
5) This false floor panel shall rest on Edge support rigid grid system having Galvanized Iron base plate dimensions as 100mm X 100mm. The stringer shall be fixed on pedestal having height adjustment of ± 25 mm.

4	SUPPLY AND FIXING of Designer Acoustic	25.360	NUM	14,600.00	370,256.00	
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Flooring

To avoid distraction of operators because of unwanted noise generated from movement of chairs/people in the control room it is necessary that the proposed flooring shall damp such impact noises. Acoustic flooring (shall reduce impact sound by 14dB (ISO 717-2)). It shall be twin-layer linoleum built up from minimum 2mm acoustic laminate and a 2mm corkment backing. Flooring shall be decorative type of approved shade, pattern, texture and design and of approved manufacturer. Dimensions shall be as per the final approved design and site requirement. Flooring shall be laid over concrete floor with laying compound strictly as per manufacturer's specification.

D	Control Room Furniture					
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integrates in Baffle Ceiling (Static)

It integrates a LED light source into a traditional fluorescent form factor. Its unique design creates a perfectly uniform visual appearance which cannot be distinguished from traditional fluorescent. For those that are looking for value for money within limited budget and re-lamping efforts for better light effect and lifetime.

- Lumen Output - 2000 # 3000
- Colour Temperature (K)- 3000 K / 4000K / 5700K / 6500K
- LED's life > 25,000 hrs @ L70
- CRI > 70
- Input Voltage Range (V) 150 - 270
- LED Efficacy (lm/W) > 150
- Power Consumption (W) 20W to 32W

1	SUPPLY AND FIXING of New Modular					
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Control Desk

1 Structure: -

- Made of heavy duty extruded vertical and horizontal aluminium profiles. The extrusions shall be duly powder coated with 40+ microns over all surfaces. All sheet metal parts shall be finished with a durable, black, electrostatic powder coating.
- To allow future extension and expansion, a weld free system shall be proposed. Interconnecting joints shall not be visible. The structure shall be rigid enough to withstand BIFMA X5.5 tests. OEM shall have had BIFMA X5.5 certificate for at-least six years prior to April 1st, 2022. The structure shall allow easy assembly of hinged shutters, slat wall, gland plate, and monitor arms in extremely rigid manner. Valid certificate of BIFMA X5.5 from authorized agencies to be submitted along with technical bid.
- The EPD (Environmental product declaration) of control room console shall be verified in accordance with

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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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ISO 14025 (from UL/Intertek) for Impacts on Environment by control room console. Valid report/document from UL/Intertek to be submitted along with technical bid.

2. Table-top: - The material of the working surface shall be minimum 25 mm thick MDF with High Pressure laminate. The proposed console's life cycle should be assessed (from approved LCA consultant) for environmental impacts associated with all the stages of a product's life for cradle to grave analysis. Valid report/document from UL/Intertek to be submitted along with technical bid.

3. Slat Wall: - The floating slat wall shall be made up of 2mm thick aluminium alloy. The slat wall shall have provision to install acrylic sheet above it. This acrylic sheet shall bear laser engraved company logo on the upper left corner.

4. Modular removable PU nosing: In the control room the front edge of consoles is the component which comes in frequent contact of the operator. The soft polyurethane edge is an ergonomic requirement and is meant to prevent injury (accidental impact) to operator during emergency and it also reduces the contact stress. In case of damage to this edge the desk design shall permit quick & easy replacement within half an hour without taking any shutdowns or removal of the tabletops. Audit certified design feature of modular PU Edge: High density poly-urethane foam moulded on industrial grade aluminium core to form 50mm deep tapered edge to be installed on worktop. The edge shall be mechanically replaceable within 30 minutes, in case of damage or wear without opening or removing the worktop. Valid UL audit certificate to be submitted along with technical bid. Extruded PU edging/PVC T-beading shall be deemed unacceptable.

5. Monitor Arm: - The Console shall feature ergonomic display mounting arms. It shall enable quick & easy replacement of VESA mounts & arm extensions as per the ergonomic. UL audit certified design feature of monitor arm assembly shall have auto lock, push & remove feature for quick release of VESA mounts and modular arm extensions for ease in maintenance and fixing of monitor by one technician within 30 seconds without using any tools. Valid UL audit certificates shall be submitted along with technical bid.

6. Shutters: - The shutter tiles shall be made of minimum 1mm Thick MS sheet with Powder coated finish. The shutter tile shall be class A fire rated as per ASTM e84a valid certificate/report (from UL/Intertek) for surface burning characteristics to be submitted along with the technical bid.

7 Desktop Lift Mechanism: - Adjustable (Height) Desks (sit-and-stand with step-less automatic height adjustment). Desktop shall be provided with height adjustment feature with following specifications: -

7.1 Surface to Floor Distance Fixed 29.5# (750 mm).

7.2 Height Adjustable 29.5 to 43# (750 to 1100 mm) customizable.

7.3 Work surface shall be Adjustable with Electrical Drive.

7.4 Maximum thrust atleast 1200N per columns.

7.5 Speed is min 30 mm/s, height ranges from 29.5# to 43# (750mm to 1100mm).

8. Side Legs: - Extreme end side leg shall have sandwich construction with 6mm thick composite material of alumina tri-hydrate & acrylic resins on either side. The periphery shall be made up of brush finish SS-304 grade. The central portion of the side leg shall feature illuminated strip on the periphery. To ensure healthier air quality for the operators. Proposed console shall be Greenguard Gold certified. OEM shall have this certificate for at-least four years prior to April 1st, 2022. Valid certificate from UL/Intertek to be submitted along with technical bid.

9 The proposed control desk shall be ANSI/BIFMA e3-2019 certified/tested at least for level 3 from UL/Intertek as per Furniture Sustainability Standard to identify the sustainability level of the furniture with respect to the environmental, health & wellness, and social impacts applicable to product(s). Valid certificate to be submitted along with the technical bid.

10. Cable Trays and Wiring: - The desks shall be designed with vertical and horizontal cable trays to allow for continuous cable management between the cabinets. Wire shall be routed into the cabinet through side leg. Proposed console shall be RoHS Certified/tested from UL/Intertek and the valid certificate/ test report shall be submitted along with technical bid.

1.1	Provision for 06 Monitors (Side by Side)	1	M2	475,000.00	475,000.00	
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, 03 CPU and 03 Operators with Dektop Lift Mechanism

CPU Size Considered: 400mm (H) x 200mm (W) x 400mm (D)

Console Dimension: 750mm (H) x 4500mm (W) x 900mm (D)

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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1.2	Provision for 02 Monitors	6	M2	197,700.00	1,186,200.00	

(one above the other), 01 CPU and 01 Operators with Fixed Height
CPU Size Considered: 400mm (H) x 200mm (W) x 400mm (D)
Console Dimension: 750mm (H) x 900mm (W) x 900mm (D)

Work Order Item 00007 Basic Item Value : INR 24,908,510.00
(RUPEE TWENTY-FOUR MILLION NINE HUNDRED EIGHT THOUSAND FIVE HUNDRED TEN ONLY)
Total Tax = 4,483,531.80
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 29,392,041.80

Item : 8 - HVAC
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	INDOOR EQUIPMENT					
A1	AHU's AND THEIR CONTROLS					
A1.1	Double Skin Ceiling Mounted AHU					
A1.2	Supply, installation, testing					

and commissioning of factory fabricated Double Skinned Chilled Water Air- handling unit ceiling suspended type fabricated out of extruded aluminium section with 0.6mm pre-plasticized / pre-coated Galvanised steel sheet outside & 0.6 mm plain Galvanised steel sheet inside with blower, blower section and blower motor TEFC type suitable for operation on 415 volts $\pm$ 10%, 50 Hz $\pm$ 5% AC supply, 4 Row cooling coil made of Aluminium finned Copper tube with coil section, pre-filter section with non-woven synthetic media of 10 micron particle size with an efficiency of 90%, polished stainless steel drain pan made out of 22 G sheet duly insulated complete with motor, direct / belt drive as mentioned below etc. without face and bypass dampers. All direct driven fan motor shall be sourced from fan manufacturer & factory fitted only. The AHU panels shall be insulated with 23mm thick & 36 Kg/m³ density PU foam & shall have thermal break.

The motor & blower assembly shall be mounted on Aluminium extruded section only. The complete AHU shall conform to standard specification. The face velocity across cooling coil shall be limited to 152 MPM maxm. The capacity of Air-handlers shall be as follows:

A1.3	2500 CFM, 8.5 TR, 45 mm static pressure	1	NUM	92,500.00	92,500.00	
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30 mm static pressure, ceiling suspended air handling unit.

A1.4	3200 CFM, 9.5 TR, 45 mm static pressure	1	NUM	150,040.00	150,040.00	Y#
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with Hydrophilic Coating, 40 mm static pressure, treated fresh air handling unit.

A2	Fan Coil Unit (High Static)					
A2.1	Supply, installation, testing and					

commissioning of Horizontal blow through type fan coil units (having 5 mm external static pressure) each complete with fan section having one or more centrifugal fans, minimum 3 row deep chilled water coil, normal three speed motor, washable fabric filters, sandwiched insulated extended drain pan, 25mm dia flexible braided drain pipe of 300mm length with clamps, copper pipe connections with brass fittings, wiring with 3 pin switch, socket and plug mounted on M.S. box, wiring in MS rigid/GI flexible conduits as required including wall chasing & finishing up to the thermostat boxes, fire retardant flexible duct connections made of silicon/neoprene rubber with extruded aluminium frame, fan coil unit shall be suitable for 240 $\pm$ 10% volts, 50 Hz cycle

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single phase power supply, maximum RPM of motor shall be 960. The price shall include rubber in shear supporting arrangement and rubber gromets as required. Fan coil units shall be of following refrigeration capacities:

A2.2	1.5 TR nominal capacity ---- 600 CFM	1	NUM	20,500.00	20,500.00	
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Note: Internal Fan speed connections shall be factory wired from motor up to a connector box installed on the FCU body.

100	2.5 TR nominal capacity ---- 1000 CFM	1	NUM	32,500.00	32,500.00	
A4	Pressure Independent Balancing Cum					

Two Way Control Valve.

A4.1	(Automatic control for Fan coil unit &					
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Cassette units)

A4.2	Supply, installation, testing and					
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commissioning of Pressure Independent Balancing Cum Two Way Control Valve in a single body equipped with electronic ON/OFF actuator working on 230V AC. The minimum close off Pressure of actuator must be 1.5 times shut off head of pump as per specifications of following sizes. Valve should come to close position ,if the power supply to the actuator is cut off. The valve actuator shall be compatible with digital snap acting type Heating/Cooling thermostat. Valve sizes shall be as follows:

A4.3	25mm dia	2	NUM	5,700.00	11,400.00	
A5	Snap acting type Thermostat					

suitable for 2 pipe system (Automatic control for Fan coil unit & Cassette unit).

A5.1	Supply, installation, testing and					
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commissioning of ON/OFF type Digital display thermostat for heating (during winters) and cooling (during summers) in fan coil units as described above. The Heating & cooling thermostat shall be compatible with the above mentioned 2-way PIBC valves and will have provision of setting of room temperature, setting of fan speed (High, Medium, Low), capable of providing individual space temperature control for heating/cooling application. The thermostat shall produce an output to cooling OR heating in response to load change in rooms. The valve system shall be complete with necessary control cabling between control transformer (mounted in MS powder coated box with connector, to be included in cost if required), valve, standalone thermostat and the power supply near the FCU.

A5.2	Heating/Cooling mode snap acting	2	NUM	5,800.00	11,600.00	Y#
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thermostat as described above.

A6	Providing and fixing in position					
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the following ball valves with strainer & without strainer for the FCU's & Cassette units (PN-16) suitable for following pipe diameter.

A6.1	25mm dia	2	SET	3,100.00	6,200.00	Y#
A7	Two Way High Rangeability Control					

Valve/Pressure Independent Balancing cum Control Valve.

A7.1	(Automatic control for AHU)					
A7.2	Supply, installation, testing and					

commissioning of complete set of Self Balancing 2-way High Rangeability (> 300)/ Pressure Independent valve with integrated Two-Way modulating control valve in a single body. Valves shall be of Brass construction rotary / linear type for DN15 to DN32 of PN25 rating with screwed connections and shall be C.I body linear type for DN40-DN200 of PN16 rating with flanged connections.

Valves shall be complete with electronic motorized modulating actuator of operating on 24V AC, and 0-10V DC or 4-20mA control signal. The actuator shall provide similar transduced feedback output. The linear actuator shall have a stroke of minimum 15 mm. It shall be possible to operate the valve manually also and the actuator shall switch back to auto mode when power supply is restored. Valve should come to close position, if the

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power supply to the actuator is cut off OR AHU fan is shut off. The valve actuator housing shall have IP54 protection. The actuator shall be suitable for a valve close up pressure of 1.5 times the pump head or a minimum of 4bar.

The valve size shall be suitable for the following pipe sizes.

A7.3	50 mm Dia pipe	2	NUM	29,000.00	58,000.00	
A8	Modulating type Digital					

controller/Thermostat suitable for 2 pipe system for Air handling units.

A8.1	Supply, installation, testing and					
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commissioning of modulating type Digital display thermostat (with NTC sensors) for heating & cooling mode in Air handling units. The thermostat shall be compatible with above mentioned 2way Hi-rangeability valves (in Sr.No.13) and will have provision of setting of room temperature, capable of providing space temperature control for Heating & cooling application.

The temperature controller shall be electronic microprocessor based with LCD display working on 24 VAC with 0-10Vdc output, 3nos. NTC sensors as required for 2 pipe system with complete wiring within AHU room, brass thermowells (as per the no. of sensors) and power supply unit (SMPS) for 240V AC input to 24V AC output, 300mA/1000mA. Temperature controller shall be capable of accepting inputs from minimum 3 temperature sensors. One temperature sensor for space temperature measurement and the other two temperature sensors for coil inlet and outlet water temperature measurements. The controller shall be capable of comparing the signals and selecting the lower output to prevent excessive water flow through coil. The digital controller shall be also capable of accepting 0-10Vdc signal from BAS. It shall also have RS-485 port for the soft integration with the BAS. One controller shall be suitable to work with either heating OR cooling mode. A transparent control box of IP55 construction for housing the Digital controller and power supply unit shall be provided & mounted in AHU room.

A8.2	Heating & Cooling mode modulating	2	NUM	9,800.00	19,600.00	Y#
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type Digital controller/thermostat as described above.

A9	Duct Mounted Advance oxidation					
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Plasma cell- AOP Cell on Ducts (For TFA).

A9.1	Supply, installation, testing and					
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commissioning of duct mounted Air Purification System with AOP comprising of UVC lamp 254 NM with nanoX coating metallic compound of five metals targeted on Aluminum matrix cell duly enclosed by a poly quartz casing tube, with the capability to produce ionized Hydroxyl oxidizers with in-built plasmox to generate ion generator pins (+ - ions 10^6) along with ultrasonic radio frequency waves for pest repellency. The UV-C lamp will be a low-pressure mercury type and of such intensity as to provide minimum performance as listed below. The UV-C lamp will produce only Germicidal UV (by definition this means 99.99% UV-C energy). The air purifier will have built in LED indication system stating the operation of the 3 technologies the UV lamp, ionizer and pest repellent. The AOP cell shall be capable of removing Particulate matter, Gaseous Contamination as well as Microbial Contamination. The power / control cabling between the Pentagon units and the power source / controls shall be included in the cost. The wattage of the lamp shall not be less than 13 watts up to and length not less than 212 MM up to 2000 CFM, 21 watts up to and length not less than 436 MM up to 2000-6500 CFM, 36 watts up to and length not less than 436 MM up to 6501-18000 CFM and a minimum of 48 watts up to 28000 CFM or combination based on the application area. The system shall be capable of reducing microbial bacteria, virus and spores, VoC#, odors and particulates matter. The equipment shall have to CE, ISO 13485, ROHS, GreenPro with 2014/35/EU Low Voltage Directive along with FDA compliance certifications. The AOP cell shall a microbiological testing report against Bacteriophage (MS-2 FDA) surrogate SARS Cov-2 with a minimum efficiency of 99 percent along with a Virology report from ICMR approved lab with a minimum efficiency of 99 percent against SARS COV2 within 45 minutes. The technology shall be

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tested by ICMR/ IIT on human Alveolar Basal Epithelial Cells stating that there is no change in the structure and prove that it is absolutely safe for humans. The air purification AOP does not produces ozone, the test certificate from an International Lab shall be produced. The specific certifications shall be submitted along with the technical submittal. The failure to submit the certifications along with the submittal shall lead to rejection of the product. The AOP cells should be selected by considering a load factor calculation for each specific area where the equipment is to be installed. The Cells Should be complete with Transformers, control cabling and Plug Top & necessary power cable. Vendor to comply all Tender Specifications.

A9.2	Unit Capacity-21 (Watt)	1	NUM	75,000.00	75,000.00	Y#
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For 2600 CFM, CSAHU.

300	Unit Capacity-25 (Watt)	1	NUM	85,800.00	85,800.00	Y#
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For 3200 CFM, CSAHU.

B	AIR DISTRIBUTION					
B1	Rectangular GI Ducting (Factory Made)					

Supply, fabrication, Installation, testing and commissioning of factory fabricated rectangular ducts using G.I Sheets (120GSM coating). The price shall include factory fabricated TDF flanges, turning vanes, splitter dampers, supports (factory fabricated, full threaded GI rod/hangers & G.I slotted channel), sealant, neoprene gasket, access door etc. The joints shall be with least leak and shall be tested with pressure testing machine of approved vendor. Corrective action shall be taken, if the leakage is more than the permissible limit. Report shall be generated after satisfactory testing of ducts for leakage and shall be duly signed by the client's /PMC representative before giving clearance for the thermal insulation.

B1.1	0.63 mm, galvanized sheet steel	200	M2	1,100.00	220,000.00	
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sheet steel (TDF 01- 750mm).

B1.2	0.8 mm, gauge galvanized sheet steel	40	M2	1,255.00	50,200.00	
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sheet steel (TDF 751 - 1500mm).

Note :- The Duct shall be manufactured as per SMACNA Standard but the minimum gauge shall be 24 G.

B2	Site Fabricated GI Duct					
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Supply, fabrication, Installation, testing and commissioning of site fabricated rectangular ducts using G.I Sheets (120GSM coating). The price shall include factory fabricated MS flanges (wherever required), turning vanes, splitter dampers, supports (factory fabricated, full threaded G.I rod/hangers & G.I slotted channel), sealant, neoprene gasket, access door etc.as required and as per ISI specifications. The joints shall be with least leak and shall be tested with pressure testing machine of approved vendor. Corrective action shall be taken, if the leakage is more than the permissible limit. Report shall be generated after satisfactory testing of ducts for leakage and shall be duly signed by the client's /PMC representative before giving clearance for the thermal insulation.

B2.1	0.63 mm, galvanized sheet steel	45	M2	1,100.00	49,500.00	
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B2.2	0.8 mm, gauge galvanized sheet steel	10	M2	1,255.00	12,550.00	
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B3	LINEAR GRILL					
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Supply, installation, testing & balancing of removable core type, continuous, linear, fixed bar extruded aluminium powder coated Supply Air / Return Air / Exhaust Air grills, normal flow, 15° angle one way / two-way deflection with all side's flanges. Blade thickness shall be minimum 5mm in front and 1.0 mm in rear side. Grills shall be supplied in accordance with specifications and approved shop drawings.

B3.1	200 mm/150mm/100mm High	5	M2	7,920.00	39,600.00	
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B4	VCDs FOR LINEAR GRILL SUPPLY AIR COLLARS	4	M2	7,500.00	30,000.00	Y#
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Supply, installation, testing & balancing of key operated extruded Aluminium volume control dampers in black mat finish for supply/return/exhaust air duct collars as per approved shop drawings and specifications.

B5	FRESH AIR INTAKE LOUVERS	2	M2	8,300.00	16,600.00	
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Supply, installation, testing & balancing of Fresh air Extruded Aluminium intake louvers with bird screen and opposed blade box type GI volume control damper complete as per specification & approved shop drawings. Construction/profile of the louvers shall give a protection against the rain and suitable for fixing in the external facade of the building.

B6	FLEXIBLE DUCTING					
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Supply, Installation, Testing and Commissioning of factory made pre - insulated with 25mm thick glass wool having minimum density of 16 kg/cum. Flexible ducts shall have inner as well as outer skin constructed out of aluminium sheets. Duct shall be of following sizes:

B6.1	200 mm dia	5	M	725.00	3,625.00	Y#
440	250 mm dia	5	M	960.00	4,800.00	Y#
450	300 mm dia	5	M	1,200.00	6,000.00	Y#
B7	FLEXIBLE DUCT CONNECTOR	2	M2	2,000.00	4,000.00	

Supply, installation and testing of double layer flexible duct connector consisting of a flame-retardant fabric secured to extruded aluminium frame on both sides to provide a wear resistant airtight flexible connection. Fabric shall be mildew resistant, water proof and silicon impregnated. Flexible connector shall be supplied in accordance with the specifications and drawings. (This item shall be an integral part of the AHUs, FCUs, Axial flow fans and already captured in their specifications).

B8	BIRD SCREEN	5	M2	5,800.00	29,000.00	Y#
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Supply, installation, testing & balancing of factory-made Bird screen made out of galvanized steel mesh in 20G having diamond pattern with GSS flanges and necessary cross bracings suitable for Fresh/ Exhaust air fans on terrace, complete as per specification & approved shop drawings.

Note: Samples of grilles / diffusers will have to be submitted to the Architect for approval on size / shape / shade / colour before ordering.

C	THERMAL INSULATION					
C1	Thermal Insulation(Internal ducting):					

Supply & installation of external thermal insulation on ducts with approved sample of Aluminium foil faced XLPE duct insulation with density 25-30 Kg/Cum for XLPE, class 'O' complete as per specifications. All longitudinal and transverse joints shall be sealed with 50mm wide and 3mm thick XLPE tape.

C1.1	13mm thick	240	M2	539.00	129,360.00	
C2	Acoustic lining for Ducting					

Supply & Installation of acoustic lining within supply and return air ducting using open cell elastomeric insulation with antimicrobial protection having 140-160 Kg/cum. density. All ducts shown cross hatched on the approved shop drawings shall be provided with acoustic lining as per the specifications.

C2.1	10 mm thick	2	M2	875.00	1,750.00	
530	20 mm thick	3	M2	1,200.00	3,600.00	
C4	Condensate Drain Piping					

Supply, installation, testing and commissioning of condensate drain water piping of CPVC complete with fittings like elbows, tees, reducers, bends, U-traps, braided flexible pipe connections with GI clamps, flanges, supports, solvent etc. as required conforming to tender specifications and of following sizes. The pipe coming with insulation if required.

C4.1	25 mm dia pipe	20	M	200.00	4,000.00	
C4.2	32 mm dia pipe	15	M	250.00	3,750.00	
C4.3	40 mm dia pipe	15	M	275.00	4,125.00	
C5	CHILLED & CONDENSER WATER PIPING					

Chilled / Condenser Water Piping

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Supply, Installation, testing & Commissioning of MS "C" class ERW Chilled water piping conforming to IS1239/IS3589 cut to required lengths & complete with fittings such as bends, elbows, tees, reducers, rubber gaskets, factory fabricated GI piping supports & vibration isolators, companion flanges, thermowells for sensors/thermometers & socket for BAS, painting etc. Price shall also include pressure testing.

The wall thickness of pipes for 200NB shall be 6.0mm & for 250NB & above shall be 8.0mm.

Chilled water piping

C5.1	32 mm dia pipe	28	M	1,430.00	40,040.00	Y#
C5.2	40 mm dia pipe	20	M	2,100.00	42,000.00	Y#
C5.3	50 mm dia pipe	35	M	2,640.00	92,400.00	Y#
C6	Manual Balancing Valves					

Providing and fixing in position the following specified make Manual balancing valves complete with companion flanges, nuts, bolts, gaskets etc. as required. Balancing valves shall conform to PN-16 rating as per the specifications. Quoted price shall be inclusive of insulation for chilled & hot water as per the specifications.

C6.1	25 mm dia (Insulated)	2	NUM	4,620.00	9,240.00	
C6.2	32 mm dia (Insulated)	2	NUM	6,490.00	12,980.00	
C6.3	40 mm dia (Insulated)	4	NUM	7,590.00	30,360.00	Y#
C6.4	50 mm dia (Insulated)	4	NUM	9,020.00	36,080.00	
C7	Ball Valves (For AHU, in					

Cast steel construction three-piece design with screwed end).

Providing and fixing in position the following Ball Valves as per the specifications. Ball valves shall be complete with companion flanges, nuts, bolts, gaskets etc. as required. Quoted price shall be inclusive of insulation for chilled & hot water as per the specifications and of PN-16 rating.

C7.1	32 mm dia	2	NUM	2,000.00	4,000.00	
C7.2	40 mm dia	2	NUM	2,640.00	5,280.00	
C8	Ball Valves (For Drain purpose,					

in forged brass/Gun metal construction with screwed end)

Providing and fixing in position the following ball Valves as per the specifications. Quoted price shall be inclusive of insulation as per the specifications and of PN-16 rating.

C8.1	40 mm dia	2	NUM	2,640.00	5,280.00	
C8.2	32 mm dia	2	NUM	2,200.00	4,400.00	
C8.3	25 mm dia	2	NUM	1,760.00	3,520.00	
C10	Y-strainer					

Providing and fixing in position the following Y-strainers as per specifications (PN - 16). Y strainers shall be complete with companion flanges, nuts, bolts, gaskets etc. as required. Quoted price shall be inclusive of insulation as per the specifications.

C10.1	50 mm dia	3	NUM	3,000.00	9,000.00	
760	Flow switches					

770	Providing and fixing in position	2	NUM	2,000.00	4,000.00	Y#
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approved make pedal type flow switches complete with copper control wiring between inlet and outlet of each chiller. These shall be BMS compatible.

C11	Thermometer					
C11.1	Supply, installation, testing and	4	NUM	2,420.00	9,680.00	Y#

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commissioning of Glycerin filled Dial type temperature gauge of approved make of dia 100 mm constructed out of SS 304 material. SS siphon shall be factory insulated with closed cell nitrile rubber in tubing form. Pressure gauges shall be fitted with a ball valve at the tube. (For Floor Mounted AHU, Chiller, Condenser & All Pumps)

C12	Pressure Gauges					
C12.1	Supply, installation, testing and	4	NUM	1,980.00	7,920.00	Y#

commissioning of Glycerin filled industrial type pressure gauge of approved make of dia 100 mm constructed out of SS 304 material. SS siphon shall be factory insulated with closed cell nitrile rubber in tubing form. Pressure gauges shall be fitted with a ball valve at the tube. (For Floor Mounted AHU, Chiller, Condenser & All Pumps)

C13	Auto air Purge					
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Providing and fixing in position the following automatic purge valve with ball valve.

C13.1	15mm dia	1	NUM	1,200.00	1,200.00	
840	20mm dia	1	NUM	1,500.00	1,500.00	
850	25mm dia	1	NUM	1,800.00	1,800.00	
860	Test Points	24	NUM	1,000.00	24,000.00	Y#

Providing and fixing in position of approved make Test Points comprising of accessories such as adaptors, needle etc. The test points shall be installed at inlet and outlet of ceiling suspended AHUs. Test points shall be in brass construction and comprise of 1/4" BSP with neoprene sealing bushes and screwed covers.

C14	ELECTRICAL WORK					
C14.1	AHU panel (1.1/ 1.5 KW)					

C14.2	Supplying, installation testing	2	NUM	35,000.00	70,000.00	Y#
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and commissioning of cubical type dol stator panel complete with all accessories

- 1 No. 16 amps. TPN MCB
 - 1 No. DOL starter for 1.1 KW Pump room
 - 3 Nos. RYB Indication Lights LED type with MCB
 - 2 Nos. Push Buttons
 - 1 No. direct digital ammeter
 - 1 No. 63 amps TPN MCCB with outgoing feeder to 1 No. 6 HP VRV outdoor unit.
 - 1 No. 63 amps TPN MCB with outgoing feeder to 1 No. 30 HP VRV outdoor unit.
- The compartment shall contain an indicating lamp with MCB for #ON# status of compressor motor.

C14.3	POWER CABLES					
910	Supply and laying of the following					

1100-volt grade armored XLPE insulated and PVC sheathed aluminium conductor cable in trench / cable tray /clamped to wall with suitable clamps saddles & fixing bolts/including testing & commissioning complete as required. The costs shall include crimping tinned heavy duty alluminium lugs, compression glands requisite materials for all cables and to provide with 1D gap & shall be properly clamped with cable clamps & ties. Identification tags shall be provided for all cables including cable end termination.

920	4 core 16 Sq mm	5	ZRM	870.00	4,350.00	Y#
930	4 core 10 Sq mm	10	ZRM	704.00	7,040.00	Y#
940	4 core 6 Sq mm	10	ZRM	360.00	3,600.00	Y#
950	4 core 4 Sq mm	10	ZRM	320.00	3,200.00	Y#
960	3 core 4 Sq mm	5	ZRM	215.00	1,075.00	Y#
970	CONTROL CABLING					
980	Supply, laying, testing and					

commissioning of control cabling, as per Standard specification including end termination as required.

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Power Cabling (PVC insulated and PVC sheathed, armoured, Copper Conductor of 1.1 KV grade on existing cable trays).

990	3C x 1.5 Sq mm	80	ZRM	200.00	16,000.00	
1000	Cable Trays :					

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. suspenders including bolts & nuts, painting suspenders etc as required.

1010	150 mm width X 50 mm depth	50	ZRM	675.00	33,750.00	Y#
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X 1.6 mm thickness

1020	200 mm width X 50 mm depth	30	ZRM	850.00	25,500.00	Y#
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X 1.6 mm thickness

1030	300 mm width X 50 mm depth	20	ZRM	1,200.00	24,000.00	Y#
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X 1.6 mm thickness

1040	EARTHING:					
1050	Providing and fixing 25 mm X 5 mm	10	ZRM	200.00	2,000.00	

G.I. strip on surface or in recess for connections etc. as required.

1060	Providing and fixing 6 SWG dia	20	ZRM	70.00	1,400.00	
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G.I. wire on surface or in recess for loop earthing as required.

1070	VRV SYESTEM					
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Variable Refrigerant Volume / Flow Air-conditioning System

Supply, Installation, testing and commissioning of Variable Refrigerant Flow /Volume (VRF/VRV) (with the late technology/version) with All-Inverter driven Compressor, modular type air-conditioning system with stepless modulation for both heating & cooling modes, complete with indoor and outdoor units, individual remote controller and centralized controller, interconnected refrigerant piping with insulation, Y joints, full charge of refrigerant gas including additional top up and oil, control cabling etc. as per detail given in specifications and having following items. The prices to be given in Indian rupees including all taxes and duties and delivered at site. Refrigerant to be used shall be - R 410 A only.

It shall be complete as per specifications, with connectivity to automation for A/M status, RUN status & Remote start/stop command. (Bacnet/IP) with multi connection kits for each outdoor unit & First charge of refrigerant gas for the VRF/VRV Units & required MS frame work or required foundation & anti vibration pads for mounting the outdoor units. installation, testing & commissioning of air cooled VRV/VRF system shall include pipe pressure testing & flushing with nitrogen, charging of gas/oil etc. & will include all lifting/shifting etc.

Air Cooled VRV / VRF Outdoor Unit

Supply Installation, Testing & Commissioning of modular type Variable Refrigerant Flow/Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), minimum two compressors for above 14 HP modules, microprocessor-based Controller, top discharge type condensing unit(s), with R 410 A Refrigerant, vibration isolators, with suitable foundation etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5.

1080	10 H.P Cool / Heat Pump Unit	2	NUM	245,000.00	490,000.00	Y#
1090	6 H.P Cool / Heat Pump Unit	1	NUM	158,000.00	158,000.00	Y#

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(For TFA)

1100	Indoor Units					
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Supply, Installation, testing and commissioning of Indoor units equipped with pre-filter, fan section with suitable static fan to distribute the air as per approved shop drawings, multispeed motor, coil section with DX coil, outer cabinet / cassette panel, drain pan, insulation, pipe connections etc. of various capacities as per specifications and drawings.

1110	Indoor Unit-Cassette Type					
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Supply, installation, testing and commissioning of following minimum capacity 4-way flow VRV/VRF Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V $\pm$ 10%, 50Hz AC supply, complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.

1120	2.0 TR(2W+ 1S)	3	NUM	60,000.00	180,000.00	Y#
1130	Indoor Unit-Ductable Type(High-Static)					

Supply, installation, testing and commissioning of following minimum capacity and external static pressure VRF/VRV ceiling mounted ductable type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with thermostat, outer cabinet, vibration isolators, drain pan, other necessary supports etc., suitable for operation on single phase AC supply 230 V $\pm$ 10%, 50 Hz complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.

1140	8.0 TR(3W+ 1S)	4	NUM	88,000.00	352,000.00	
1150	Treated Fresh Air Unit with DX- cooling					

coil.

Supply, installation, testing and commissioning of Treated Fresh Air Units (D-X Type) suitable for connection with VRF/VRV outdoor unit. Outdoor units comprising of rotary/scroll compressors as per specification and drawings. D-X TFA units shall be ceiling suspended type. The units shall include pre-filters, D-X coil section, corded remote, thermostat. The housing of the unit shall be light weight powder coated GI sheet. The unit shall have high static fan for duct able arrangement. TFA unit shall be complete with connection with VRF/VRV outdoor units of required specifications.

1160	TFA 635 CFM/3.98 Tr	1	NUM	110,000.00	110,000.00	
1170	Refrigerant Piping for VRV / VRF System					

Supply, installation, testing and commissioning of interconnecting high-pressure copper refrigerant piping work including vacuumization and Nitrogen testing suitable for refrigerant R 410A duly insulated with FACTORY PREFORMED TUBULAR EPDM RUBBER FOAM SECTIONS with completely closed cell structure as per specifications - Density 40-60 kg /cum, Class A as per ASTM E 84, Class V-0 as per UL 94 and Mu value > 7000 between indoor & outdoor units as per specifications. External refrigerant piping shall be laid on 16 G GI covered perforated cable trays. Piping inside occupied area & vertical shaft inside the AHU Room shall be supported using 16 G GI hangers. All exposed pipe shall have UV coating on insulation & cost to be included in the piping. Cable tray is quantified separately.

Makes:

1180	6.4 mm dia (OD) (Soft drawn) with tube	15	M	400.00	6,000.00	Y#
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thickness 1.2 mm with 19 mm thick insulation

1190	9.5 mm dia (OD) (Soft drawn) with tube	25	M	500.00	12,500.00	Y#
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Item : 8 - HVAC
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
thickness 1.2 mm with 19 mm thick insulation						
1200	12.7 mm dia (OD) (Soft drawn) with tube	25	M	550.00	13,750.00	
thickness 1.2 mm with 19 mm thick insulation						
1210	15.9 mm dia (OD) (Soft drawn) with tube	25	M	560.00	14,000.00	
thickness 1.2 mm with 19 mm thick insulation						
1220	19.1 mm dia (OD) (Hard drawn) with tube	50	M	675.00	33,750.00	
thickness 1.2 mm with 19 mm thick insulation						
1230	22.2 mm dia (OD) (Hard drawn) with tube	25	M	750.00	18,750.00	
thickness 1.2 mm with 19 mm thick insulation						
1240	28.6 mm dia (OD) (Hard drawn) with tube	35	M	890.00	31,150.00	
thickness 1.2 mm with 19 mm thick insulation						
1250	34.9 mm dia (OD) (Hard drawn) with tube	35	M	1,200.00	42,000.00	
thickness 1.62 mm with 19 mm thick insulation						
1260	41.3 mm dia (OD) (Hard drawn) with tube	30	M	1,500.00	45,000.00	
thickness 1.62 mm with 19 mm thick insulation						

NOTES- The Copper Pipe & Piping circuit should be with minimum number of joints.

1270	Y-joints For Indoor Unit	5	NUM	4,200.00	21,000.00	
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Supply, installation, testing and commissioning of Imported Y/T refnet Joints with insulation to connect indoor units with main header as per drawing. It should be complete as per manufacturing standards & as per directions of Engineer-in-charge.

(1 Set will comprise of 2 Y/T Refnet Joints each for suction & discharge side)

1280	Self Diagnostic Type Individual Remote	7	NUM	3,600.00	25,200.00	
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Controllers (Cordless Type)

Supply, Installation, Testing & Commissioning of Cordless Type Self Diagnostic Type Digital Programmable Individual Remote Controllers of latest generation for setting required temperature for various Indoor Unit.

1290	Main Intelligent Programmable	1	NUM	95,000.00	95,000.00	
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Central Controller (Cordless Type)

Supply, installation, testing and commissioning of Main centralized controller / manager digital type of latest generation for VRV/VRF system for controlling all the indoor & outdoor units installed in building with adapters (for connecting additional indoor units, cost for the same is deemed to be included in this item) with On / Off, touch screen and Temperature Controls, fan speed, scheduling, air flow direction setting, operation history etc. The controller should be compatible with automation system (Bacnet/IP) with all accessories. It should be complete as per manufacturing standards & as per directions of Engineer-in-charge.

1300	Condensate Drain Piping With					
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Nitrile Rubber Insulation

Supply, installation, testing and commissioning of UPVC condensate drain water piping of density 20 Kg/m³ complete with fittings like elbows, tees, reducers, bends, flanges, supports & duly insulated with "O" class Closed Cell Elastomeric Nitrile Rubber of specified pipe section of specified thickness etc. as required and of

Vendor Code: 101012787
MANNU LAL & SONS

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
LOA Date : 28.02.2023

Item : 8 - HVAC
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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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following sizes.

1310	25 mm dia pipe, 13 mm Insulation	20	M	250.00	5,000.00	
1320	32 mm dia pipe , 13 mm Insulation	25	M	275.00	6,875.00	

Work Order Item 00008 Basic Item Value : INR 3,372,170.00
(RUPEE THREE MILLION THREE HUNDRED SEVENTY-TWO THOUSAND ONE HUNDRED SEVENTY ONLY)
Total Tax = 606,990.60
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 3,979,160.60

Item : 9 - AV System in Control Room
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
1	Supply, Installation, testing	8	EA	25,500.00	204,000.00	Y#

and commissioning of two-way, thin edge ceiling speaker with back can, built in cone driver, Line Transformer Tapping's: 60watt - 30watt, Sensitivity: 86dB, Sound Pressure: 106dB, Dispersion Conical: 145° or more, Frequency Response: 90 Hz - 20 kHz, Frequency range: 65 Hz - 20 kHz etc. complete required as per specifications. Approved Make: OSL/OHM/ British Acoustics/LAcoustics

2	Supply, Installation, testing	2	EA	86,250.00	172,500.00	
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and commissioning of digital power amplifier, class-D, RMS power: 2 X 120watt, Frequency Response: 50 Hz - 22 kHz, Signal / Noise: > 100 dB, THD+ N: < 0.3%, Crosstalk: < 80 dB, Power Supply: Switching mode, Common mode rejection ratio: 70dB, Protection: DC Short circuit; Overheating; Over load; Signal limiting, built in temperature-controlled fan etc. complete required as per specifications. Approved Make: OSL/OHM/ British Acoustics/LAcoustics

3	Supply of Digital 2 in 6 out	1	EA	175,000.00	175,000.00	
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Installation Controller. Spyder Software DSP control via USB. 10-PEQ, peak limiting, 2 sec delay, matrix and crossover Approved Make: OHM/ British Acoustics/ OSL/ LAcoustics/ D&B

4	Supply, Installation, testing	3	EA	207,000.00	621,000.00	
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and commissioning of Wireless Table top microphone with ON/Off Switch with cardioid pick up pattern, RF power: 80mW or more, channel: 18 or more, frequency range: 2.4 Ghz to 5.8Ghz etc. complete as required with transmitter and receiver. Make: OSL/Beyerdynamic/ Shure/Nuemann/Sennheiser

5	Supply, Installation, testing	2	EA	650,000.00	1,300,000.00	
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and commissioning of Ceiling Microphone tile with 16 or more no. of omni directional microphone, coverage area: 55sq mtr or more, Dante connectivity: dual / redundant, POE enable (qty of microphone will vary as per the mentioned coverage area and built in microphone) etc. complete required as per the specifications. audio, AES67, and third-party

Ausio DSP with Dante controller. Approved Make: OSL/Beyerdynamic/ Shure/Nuemann/Sennheiser

6	Supply, Installation, testing	18	EA	30,000.00	540,000.00	
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and commissioning of 27" FHD Curved DISPLAY 250Nits resolution. Make-Samsung/Dell/ViewSonic

Work Order Item 00009 Basic Item Value : INR 3,012,500.00
(RUPEE THREE MILLION TWELVE THOUSAND FIVE HUNDRED ONLY)
Total Tax = 542,250.00
18 % IGST - Cenvatable-(IX)

Total item value including taxes & duties : INR 3,554,750.00

Item : 10 - Electrical
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	DISTRIBUTION BOARD					
1	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)

30	6 way, Double door	1	NUM	2,100.00	2,100.00	
2	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)

50	6 way Double door	1	NUM	4,000.00	4,000.00	
60	8 way Double door	1	NUM	4,100.00	4,100.00	
3	Supplying and fixing following rating,					

double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.

80	40 amps	1	NUM	850.00	850.00	Y#
4	Supplying and fixing following rating,					

four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.

100	63 amps	2	NUM	1,200.00	2,400.00	
5	Supplying and fixing 5 amps to 32 amps					

rating, 240/415 volts, "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.

120	Single pole	48	NUM	250.00	12,000.00	
130	Supplying and fixing single pole	5	NUM	25.00	125.00	
6	Supplying and fixing following rating,					

double pole, single phase and neutral, 240 volts, residual current circuit breaker (RCCB), having a sensitivity current up to 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.

150	40 amps	2	NUM	2,000.00	4,000.00	
160	63 amps	6	NUM	2,400.00	14,400.00	
B	INTERNAL WIRING					
1	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. FR PVC insulated copper conductor single core cable etc. as required.

190	Group # C	82.00	P	1,500.00	123,000.00	
2	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.

210	Group # C	82.00	P	1,200.00	98,400.00	Y#
3	Wiring for circuit/ submain wiring					

along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in

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Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
surface/ recessed medium class PVC conduit as required.						
230	2 X 1.5 sq. mm + 1 X 1.5 sq. mm	480	M	258.00	123,840.00	
earth wire						
240	2 X 2.5 sq. mm + 1 X 2.5 sq. mm	850	M	320.00	272,000.00	
earth wire						
250	2 X 4 sq. mm + 1 X 4 sq. mm	20	M	390.00	7,800.00	
earth wire						
260	4 x 10 sq.mm + 2 x 6 sq.mm.	10	M	950.00	9,500.00	
earth wire						
270	4 x 16 sq.mm + 2 x 6 sq.mm.	40	M	1,200.00	48,000.00	
earth wire						
4	Supplying and fixing suitable size	62	EA	460.00	28,520.00	
GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. (For light plugs to be used in residential buildings).						
5	Supplying and fixing suitable size	15	EA	660.00	9,900.00	
GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.						
6	Wiring for light/ power plug with	180	M	650.00	117,000.00	Y#
2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required. Make: KEI, Worldcab, RR Kable, Bonton						
7	Wiring for light/ power plug with	80	M	750.00	60,000.00	Y#
4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required. Make: KEI, Worldcab, RR Kable, Bonton						
8	Supplying and fixing of call bell /	2	EA	500.00	1,000.00	Y#
buzzer suitable for single phase,230 volt complete as required.						
9	Supplying and fixing	20	EA	30.00	600.00	
modular blanking plate on the existing modular plate & switch box excluding modular plate as required. Make: Clipsal NEO C-Metro, MK- Aspect, Legrand - Arteor, ABB - Concept BS						
10	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.						
350	20 mm	10	M	65.00	650.00	
360	25 mm	20	M	75.00	1,500.00	
11	Supply & Installation of 9 Module	4	EA	19,000.00	76,000.00	
Rotatable box having 2 Power 6/13A intel sockets controlled by 1no 16A Switch, 2 data in 1 Module with IO'S CAT6 port male /female to connect data cable, 1 HDMI 1 Passive USB port. Power supply to box with male/female GST connectors. The unit shall be rotated to 180 degree and turned closed while not in use in the meeting room table.#						
12	Supply & Installation of 12 Module	4	EA	29,000.00	116,000.00	
Dual Side accessible table top box having 3 Power 6/13A intel sockets, 1 Active USB with A+ C Type Outlets, 2 dat CAT6, 1 HDMI 1 Passive USB port. Power supply to box with male/female GST connectors. The unit shall be flushed with table top and should have access from either side of the table.#						
13	Amp Basic, factory assembled	4	EA	3,800.00	15,200.00	

Item : 10 - Electrical

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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modular socket outlet box, housing and components made out of aluminum alloy standard, comprising of 1 switch, 2 Nos. universal socket, 1 data/1 Voice with the option of Plug top for power supply.

C	FANS & LIGHT FIXTURES:					
1	SITC of recessed ceiling system	5	EA	4,200.00	21,000.00	

power [8W ± 5%], should be available in 3000K/4000K/6000K color temperature, minimum dimension of module Ø85 x 104mm, Luminaire made of die-cast aluminium body and heat sink for better thermal management: Precision engineered high quality optics & electro plated reflector. operational voltage range should be of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 3 KV, Luminaire has Ingress protection of IP20, Dark light technology UGR < 16, Adjustable up to 30° / Rotatable 355°, Easy maintenance without removing the frame from false ceiling, The luminaire should have minimum lumen output of 950 lumens CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-3328 or equivalent make Philips/Regent/LT

2	SITC of IP-40 rated 12W LED ceiling	44	EA	1,350.00	59,400.00	
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recessed back-lit panel light - Indoor luminaire with soft uniform Light distribution. Luminaire should be made of die-cast aluminium for better thermal management. High efficiency diffuser for glare free, uniform light distribution. CRI (Ra) : > 80, SDCM# 3 to avoid color deviation, Led life should be atleast L70B10 50,000hrs High lumen output (Delivered) of at least 100lm/w. High PF constant current LED driver with surge and thermal protection with following ratings Power Supply : Integrated Power Factor : > 0.90 THD : < 20% Surge Protection : 2.5KV Efficiency : > 83%. Suitable for operation on 240V, 50Hz single phase ac supply, Operating Voltage : 90-265Vac Operating Temperature : -15° ~ + 50°C. CE, BIS. K Lite Model KL-3321 or equivalent make Philips/Regent/LT

3	SITC of 4ft Linear Traiangular shaped up	52	EA	5,000.00	260,000.00	
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and down Suspended diffused LED luminaire with system power 40W & 10W dimension should not be more than 1200 x 60 x 56 mm should be available in 3000K/4000K/6000K color temperature operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 2.5 KV, Luminaire has Ingress protection of IP20 the luminaire should have minimum lumen output of 3500 lumens, CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers K Lite Model KL-3434 or equivalent make Philips/Regent/LT

4	SITC of Linear Suspended line	8	EA	9,500.00	76,000.00	
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n dot LED luminaire with system power [60W ± 5%], should be available in 3000K/4000K/6000K color temperature, minimum dimesnion 1824 x 66 x 37mm, should be made up of High-Grade Aluminium with Die-cast Endcaps, Diffuser/Lens Material: Polycarbonate, Diffuser Finish: Vacuum Metalized Chrome Finish, UGR< 12, operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 3 KV, Luminaire has Ingress protection of IP20. The luminaire should have minimum lumen output of 2000 lumens, CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5,

IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-3475+ 3474 or equivalent make Philips/Regent/LT

5	SITC of hexagonal shaped Suspended	2	EA	27,000.00	54,000.00	
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line n dot LED luminaire with system power [48W ± 5%], should be available in 3000K/4000K/6000K color temperature, minimum dimension Ø1000x 36 x 76mm, should be made up of High-Grade Aluminium with Die-cast Endcaps, Diffuser/Lens Material: Polycarbonate, Diffuser Finish: Vacuum Metalized Chrome Finish

Item : 10 - Electrical

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S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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UGR< 12. Operational voltage range should be of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 3 KV, Luminaire has Ingress protection of IP20, CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-3501 or equivalent make Philips/Regent/LT

6	SITC of IP-44 rated round Suspended	5	EA	2,000.00	10,000.00	
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diffused LED luminaire with system power 60W, dimension should not be more than Ø598 x 80 mm should be available in 3000K/4000K/6000K color temperature operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 6 KV, Luminaire has Ingress protection of IP20 The luminaire should have minimum lumen output of 6200 lumens , CRI of > 80 .It should be made from High-Grade spun aluminium with diffuser option Prismatic / Satin Acrylic The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety :IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge : IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-2848 or equivalent make I Philips/Regent/LT

7	SITC of Y-shaped profile Suspended	6	EA	28,000.00	168,000.00	
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diffused LED luminaire with system power 30W dimension should not be more than Ø744 x 50 x 70 mm should be available in 3000K/4000K/6000K color temperature operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 2.5 KV, Luminaire has Ingress protection of IP20 The luminaire should have minimum lumen output of 2500 lumens , CRI of > 80 .It should be made from High-Grade Aluminium with Die-cast Endcaps The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning Luminaire performance & Safety :IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge : IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-3513 or equivalent make Philips/Regent/LT

8	SITC of 4ft recessed diffused LED	32	EA	6,100.00	195,200.00	
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luminaire with system power 40W dimension should not be more than 1200 x 86.5 x 35 mm should be available in 3000K/4000K/6000K color temperature operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 2.5 KV, Luminaire has Ingress protection of IP20 the luminaire should have minimum lumen output of 3500 lumens, CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning

Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-2856 or equivalent make Philips/Regent/LT

9	SITC of 8ft recessed diffused LED	6	EA	7,000.00	42,000.00	
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luminaire with system power 80W dimension should not be more than 2400 x 86.5 x 35 mm should be available in 3000K/4000K/6000K color temperature operational voltage range of 90-265V, power factor > 0.9, THD < 10%, Inbuilt surge protection of 2.5 KV, Luminaire has Ingress protection of IP20 the luminaire should have minimum lumen output of 3500 lumens, CRI of > 80. The LEDs used have a life of 50000 burning hrs Lumen maintenance as per L70B10 with SDCM< = 3 binning

Luminaire performance & Safety: IEC 60598, IS 10322-5, IS 161-03/05/06/07, Surge: IEC 61000-4-5, IES, LM 79, LM 80, & TTC certificates will be provided from NABL accredited lab.

Certification: CE Certified, Design Patented/Registered, ROHS compliant, BIS Certification for Luminaires & Drivers. K Lite Model KL-2857 or equivalent make Philips/Regent/LT

10	SITC of IP-40 rated 16W LED ceiling	15	EA	3,100.00	46,500.00	
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Item : 10 - Electrical

Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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square surface mounted back-lit Indoor luminaire with soft uniform Light distribution. Luminaire should be made of die-cast aluminium for better thermal management. High efficiency diffuser for glare free, uniform light distribution. CRI (Ra) : > 80, SDCM# 3 to avoid color deviation , Led life should be at least L70B10 50,000hrs High lumen output (Delivered) of at least 90lm/w. High PF constant current LED driver with surge and thermal protection with following ratings Power Supply : Integrated Power Factor : > 0.90 THD : < 10% Surge Protection : 2.5KV Efficiency : > 83%.Suitable for operation on 240V, 50Hz single phase ac supply, Operating Voltage : 90-265Vac Operating Temperature : -15~ + 50°C CE,BIS. K Lite Model KL-7331 or equivalent make Philips/Regent/LT

11	SITC of IP-40 rated 18W LED ceiling	2	EA	1,850.00	3,700.00	
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recessed back-lit panel light - Indoor luminaire with soft uniform Light distribution. Luminaire should be made of die-cast aluminium for better thermal management. High efficiency diffuser for glare free, uniform light distribution. CRI (Ra) : > 80, SDCM# 3 to avoid color deviation , Led life should be at least L70B10 50,000hrs High lumen output (Delivered) of at least 100lm/w. High PF constant current LED driver with surge and thermal protection with following ratings Power Supply : Integrated Power Factor : > 0.90 THD : < 20% Surge Protection : 2.5KV Efficiency : > 83%.Suitable for operation on 240V, 50Hz single phase ac supply, Operating Voltage : 90-265Vac Operating Temperature : -15~ + 50°C.CE,BIS. K Lite Model KL-3322 or equivalent make Philips/Regent/LT

12	Supplying,installation,testing and	1	EA	6,500.00	6,500.00	Y#
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commissioning of Passive Infrared (PIR) technology-based occupancy sensor having high performance, non-regulating programmable type, suitable for connected load up to 10Amp, for mounting height up to 2.8 mtr and for 5 m diameter coverage area along with necessary fixing arrangements i/c programming at site etc. complete as required.

13	Supplying,installation,testing and	2	EA	10,000.00	20,000.00	
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commissioning of Passive Infrared (PIR) technology-based occupancy sensor with day light dimming (lighting level shall be regulated as per availability of natural day light in an area along with occupancy detection.) having high performance, regulating programmable type, suitable for connected load up to 10Amp, for mounting height up to 2.8 mtr and for 5 m diameter coverage area along with necessary fixing arrangements i/c programming at site etc. complete as required.

D	RACEWAYS AND CABLE TRAY					
1	Metal Raceways : Floors	1	EA	1,000.00	1,000.00	Y#

Supply and fixing in position of following size of under floor GI raceways [consists of body & cover] for distributing cabling in screed floor installations. Raceway should be made up of Pre-galvanized sheet conforming to IS 277 with thickness of 1.6mm consists of Body and Openable cover with 275 GSM coating. Raceway should be supplied with required accessories such as fixing brackets and coupling plates as required. Raceway should be confirmed with the standard EN 60-670 and EN 50085-2-2, IP 20 & IK08 in recess / on surface including chasing the wall/floor complete as required of following configurations:

560	100 x 38 mm Raceway with 1 compartments.	15	ZRM	632.00	9,480.00	Y#
570	75 x 38 mm Raceway with 1 compartments	10	ZRM	575.00	5,750.00	Y#
2	Metal Junction Box : Floors	1	EA	1,000.00	1,000.00	Y#

Supply and fixing in position height#adjustable under floor crossover Junction box for Raceways for direct access to cables at the intersection of Raceways supplied completely with base and cover plate [lid]. Junction box should be made of Pre-galvanized sheet consist of body and cover. Height of the junction box should be adjustable from minimum 65mm. Junction box should be supplied with the metal cover for protecting the junction box during constructions at site. It should be confirmed with the standard EN 50085-2-2 including all accessories complete as required of following sizes:

590	Sizes:	2	NUM	1,265.00	2,530.00	
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Item : 10 - Electrical
Plant : 1015 - CORPORATE SERVICES EXTN- NOIDA- Uttar Pradesh (UP)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Box : 225 x 225 x 65-90mm [1mm base & 3mm lid]

Cover Plate : 225 x 225mm

600	Sizes:	2	NUM	1,100.00	2,200.00	
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Box : 150 x 150 x 65-90mm [1mm base & 3mm lid]

Cover Plate : 150 x 150mm

E	Cable Tray					
1	Supplying and installing following size					

of perforated pre-painted M.S cable trays with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.

630	100 mm width X 50 mm depth X 1.6mm thick	5	M	520.00	2,600.00	Y#
640	150 mm width X 50 mm depth X 1.6mm thick	5	M	675.00	3,375.00	Y#
2	Supplying and installing following size					

of perforated pre-painted M.S cable trays bends with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.

660	100 mm width X 50 mm depth X 1.6mm thick	2	EA	580.00	1,160.00	
670	150 mm width X 50 mm depth X 1.6mm thick	2	EA	725.00	1,450.00	
3	Supplying and installing following size					

of perforated pre-painted M.S cable trays reducers with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.

690	100 mm width X 50 mm depth X 1.6mm thick	2	EA	410.00	820.00	
700	150 mm width X 50 mm depth X 1.6mm thick	2	EA	475.00	950.00	
4	Supplying and installing following size					

of perforated pre-painted M.S cable trays Tee's with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.

720	100 mm width X 50 mm depth X 1.6mm thick	2	EA	410.00	820.00	
730	150 mm width X 50 mm depth X 1.6mm thick	2	EA	475.00	950.00	
5	Supplying and installing following size					

of perforated pre-painted M.S cable trays Cross members with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.

750	100 mm width X 50 mm depth X 1.6mm thick	1	EA	700.00	700.00	Y#
760	150 mm width X 50 mm depth X 1.6mm thick	1	EA	875.00	875.00	Y#

Vendor Code: 101012787
MANNU LAL & SONS

LOA No. : GAIL/NOID/22194/5300038382/C&P/CIV/NIC
LOA Date : 28.02.2023

Work Order Item 00010 Basic Item Value : INR 2,150,845.00
(RUPEE TWO MILLION ONE HUNDRED FIFTY THOUSAND EIGHT HUNDRED FORTY-FIVE ONLY)
Total Tax = 387,152.10
18 % IGST - Cenvatable-(IX)
Total item value including taxes & duties : INR 2,537,997.10

Total estimated contract value excluding all tax and duties : 49,984,555.66
(RUPEES FOUR CRORE NINETY-NINE LAC EIGHTY-FOUR THOUSAND FIVE HUNDRED FIFTY-FIVE
& PAISE SIXTY-SIX ONLY)

Total estimated contract value including all tax and duties : 58,981,775.68
(RUPEES FIVE CRORE EIGHTY-NINE LAC EIGHTY-ONE THOUSAND SEVEN HUNDRED
SEVENTY-FIVE & PAISE SIXTY-EIGHT ONLY)

*Service items marked YY under AHR column are AHR items. Any service item marked #Y or Y# confirmation is required from authorized dealing officer who shall be final authority regarding AHR declaration. However, service items marked #Y or Y# shall be treated as AHR unless confirmed Non-AHR by dealing officer.

Signature Not Verified

Digitally signed by ASHISH GOEL
Date: 2023.03.02 09:48:45 IST
Location: eProcurement System for
Central PSUs