

NAME OF WORK : PROPOSED AIR-CONDITIONING WORKS OF SETTING UP AN AUDITORIUM AT OPEN SPACE OF MEZZANINE FLOOR, LOCAL HEAD OFFICE BUILDING,

S.NO	Description	Unit	Qty	Rate	Amount
1	<p>Supplying, installation, testing and commissioning of factory built, of double skin Horizontal floor mounted double skin type Air Handling Units with DX coil.</p> <p>The AHU housing shall be made of 45±2mm thick panels consisting of 0.8 mm thick galvanized pre-plasticised/powder coated sheet on outside and 0.63 mm thick plain GI sheet inside with polyurethane foam (PUF) 40±2 kg/m³ density insulation factory injected between them by injection moulding machine. AHU housing framing structure shall be thermal break structure type. The AHU shall have a fan section with Plug Fan, TEFC drive, IE-3 motor suitable for 215/415+ 10% volts, 1/3 phase 50 Hz AC supply, motor mounting arrangement inside the casings, stainless steel (18G) drain pan with PUF insulation, belt drive system and with vibration isolators, Coil section with ARI 410A compliant Cu Tube / Al finned 6 Row deep -13 FPI Dx coil, with suitable for DX Unit connective , aluminium damper on the outlet of AHU, filter section with 50mm thick metal viscous/ washable synthetic type air prefilters , double fire retardant canvas connections and access doors to attend the motor/fan, etc. complete as per drawings and specifications. Filters shall have efficiency of 90 % down to 10 micron as per ASHRAE standard. AHU should be designed in such a way considering 20 to 30% clogged filters.</p> <p>The motor shall be suitable for operation with VFD. AHU noise should be below 55 dB(A) after the AHU.</p> <p>The Electrical Control Panel with VFD is included in the scope of work.</p>				
1.1	<p>CFM :10,000 Fan Static Pressure : 50 MM Capacity : 25 TR capacity Coil Row : 6 Circuit : 3 Nos Location : Auditorium (Make : REVO / BLUE STAR / ZECO, EDGETECH)</p>	No's	2		
2	<p>Supply of Air Cooled Condensing Unit air conditioning unit of following capacity with scroll compressor of approved make suitable for operation on 3 phase 415 V 50 Hz AC Supply Comprising of copper condensor , and aluminium fins, & first charge refrigerant . The unit comprising of fan, Fan motor, copper tube, aluminium finned cooling coil, drain pan, filter, controls , safety with ecofriendly green refrigerant gas R410 excluding connection of copper pipe of required size insulation.</p>	No's	6		
2.1	8.0 TR (Bluestar, Carrier , Mitsubishi Electric , O-GENERAL)				

S.NO	Description	Unit	Qty	Rate	Amount
3	Copper Piping : Supply, Instalation, Testing & commssioning of inteconnecting copper regrigerant pipe work (19mm/13 mm thick) duly insulated with elastomeric nitrile rubber type tublar insulation between indoor & outdoor units as per soefcications & exposed pipng should be wrapped with glass woven cloth and lag coating for vapur barrier tape of 3 mm thick complete as per sepcifications.				
3.1	15.9 mm OD : Wall Thickness >0.8 mm (Insulation -13 mm Thick)	Mtr	25		
3.2	25.0 mm OD : Wall Thickness >01.2 mm (Insulation -19 mm Thick)	Mtr	25		
4	Drain Pipng : Providing & fixing of CPVC 6kg/cm2 drian water piping with fittings support & insulated with 6/9 mm thick closed cell elastometric nitrile rubber insulation complete as per specifictaion				
4.1	32 mm	Mtr	50		
4.2	40 mm	Mtr	25		
5	Control & Transmission Wiring:- Supply, laying and installation of control Cable copper in suitable conduits between indoor and out door unit. Including fixing clamps & proper connections to equipments etc. complete as required.				
5.1	2C x 0.75 Sq.mm	Meter	150		
5.2	4C x 1.5 Sq.mm	Meter	150		
6	XLPE Insulayed FRIS heavy duty power cables:- Supply of XLPE insulated FRIS heavy duty power cable conforming IS-7098 (Part-1) 1988, 1100 Volt grade, 2/3/4/8/10/12 core ISI marked with copper standard / solid condutor. Armoured 4 Core				
6.1	10 Sq.mm	Meter	80		
7	Surface PVC conduit MMS:- Supply and fixing PVC conduit ISI maeked FRIS along with accessories on surface etc. as required.				
7.1	20mm. MMS: PVC conduit 20mm (MMS)	Meter	150		
7.2	25mm. MMS: PVC conduit 25mm (HMS)	Meter	150		

S.NO	Description	Unit	Qty	Rate	Amount
8	Ducting :- Fabrication, supply, installation, testing & commissioning Galvanised Iron (shall conform IS: 227 – 1977) Sheet ducting complete with supports etc. as per drawings and specifications. Supports for ducts at 2.4m distance apart upto 2250/1.2m distance part for larger ducts. Each support shall have minimum 2 vertical rods of 8mm diameter with 40 x 40 x 6 or 50 x 50 x 6 angles as approved by Consultant. Note. as per SMACNA (Make: Tata , Jindal, Uttam)				
8.1	22 Gauge (Thickness 0.8mm)	Sq Mtr	140		
8.2	24 Gauge (Thickness 0.63mm)	Sq Mtr	140		
8.3	20 Gauge (Thickness 1.0mm)	Sq Mtr	125		
9	Thermal Insulation : Supply & Providing of thermal insulation of ducts closed cell Nitriol Insulation Calss 1 , 13 mm Thick (Make : Aerocel, Armacel, K-FLEX)	Sq Mtr	280		
10	Acoustic Insulation : Supply, installation, testing and commissioning of Acoustic lining of duct work with following type 10 mm thick Accoustic Open cell Nitrile Rubber (Make : Aerocel, Armacel, K-FLEX)	Sq Mtr	125		
11	VCD : Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	Sq Mtr	2		
	Supply, fixing, testing and commissioning of Motorised dampers with 150 mm sleeves as where required of required sizes . The damper shall be motorized and spring return so as to close the damper in the event of power failiure automatically and open the same in case of power being restored. The spring return action shall be built mechanism and not externally mounted. The damper shall also be closed in the event of a fire signal which shall be provided by Fire Alarm System in each AHU's/ Smoke extract fans panel etc. as per specifications as required. (Makes: / Dynamic Equipments/Ecoair/SwirlAir Equipments Pvt. Ltd.)				
11.1	Motorized damper	Sq Mtr	1.5		
11.2	Actuator with control panel	Nos	2		

S.NO	Description	Unit	Qty	Rate	Amount
12	Canvass Connection : Supply, installation, testing and commissioning of Flexible double Canvass Connections for AHU,	No's	2		
13	Supply & Installation of Aluminum Diffusser with Damper	Nos	32		
14	Supply & Installation of Aluminum Diffusser with out Damper	Nos	40		
16	Lifting , Shifting Installation , Nitrogen Pressuer Testing & Commssioning of ODU Units of air cooled Condensing unit air conditioning unit of following capacity with scroll compressor of approved make suitable for operation on 3 phase 415 V 50 Hz AC Supply Comprising of copper condensor , and aluminuim fins, & first charge refrigerant . The Indoor compirising of fan, Fan motor, copper tube, aluminium finned cooling coil, drain pan, filter, controls , safety with ecofrendly gas R410 excluding connection of copper pipe of requierd size insulation.				
16.1	8.0 TR	Nos	6		
17	Supply, Installation, Testing & Commissioning of Thermostatic Expansion Valve complete with Diphagram and other accessories.	Nos	6		
18	Supply, Installation, Testing & Commissioning of Liquid Line Cath All Filter Drier to remove all moisture content and impurity in the refrigerant system.	Nos	6		
19	Supply, Installation, Testing & Commissioning of Hand Shut Off Valve for isolating the system in case of maintenance.	Nos	6		
20	Supply, Installation, Testing & Commissioning of wired Electronic Controller complete with digital display to control the temperature and operation of the entire system remotely	Nos	2		
21	Charging / Topup of Green Refrigerant R-410 A as per system requirement.	K.G	10		

S.NO	Description	Unit	Qty	Rate	Amount
22	UNDER DECK INSULATION: Supply & Laying of under deck insulation with TF quality expanded 50mm thick (density not less than 24kg/Cu.mtrs.) stuck with bitumin to slab and held by G.I. Nut-Bolt with washers. It should be finally covered with chicken wire mesh tightened by G.I. wires.	SQFT.	5100		
23	Cable tray :Perforated Type:- Supply and erection of hot dip G.I. cable tray perforation not more than 17.5% for specific dimensions along with tees, bends. The cable tray shall be hang from ceiling/ fixed to wall with necessary angle/flat iron/ hanging rod, for ceiling suspensions, clamp,anchor fastener,nuts,bolts, washers, not more than 1.0 mtr. apart complete as per specification to complete the job. The tray shall be as follows :-				
23.1	200 x 50 x 2mm thick (14 SWG-Approx.2.0mm thk.)	RM.	80		
TOTAL AMOUNT OF AIR-CONDITIONING WORKS					

GST to be paid additionally

S.NO	Description	Unit	Qty	Rate	Amount
	FULLY COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (AMC) :- Rates to be quoted by the Agency/contractor for fully comprehensive AMC inclusive of all (AHU, Condenser unit, piping, ducting, cabling, insulations, VCD, dampers, all electrical, mechanical equipments associated with above works etc) for next five years after the defect liability period of one year.				
	DESCRIPTION OF ITEMS	Amount (AMC as per Yearly)		Yearly AMC Amount	
1	For 1st Year @% of Part-'A'. without GST , fully comprehensive AMC of above Air-conditioning Works (HVAC) after the Defect liability period of One year				
2	For 2nd Year @				
3	For 3rd Year @				
4	For 4th Year @				
5	For 5th Year @				

Note:- The above AMC rates are indicative and for reference only and Bank's has discretion to consider or not consider, the AMC rate subject to their reasonableness. The AMC rates are not part of main price bid and also shall not be considered for evaluation of L-1 bidder. The Bank has right to negotiate AMC rates if found unreasonable. GST will be paid additionally.