

<b>PART A : Supply of Multi V-5 VRF Airconditioning system (equipments)</b>					
S.No.	Item	Qty.	Unit	Rate	Amount
A	<b>Variable Refrigerant Volume System</b>				
	Supplying, installation, testing and commissioning of Air Cooled VRV/VRF units with scroll Compressor capable of modulating capacity i.e. it should be able to vary speed of the compressor as per the varying load conditions and works on R410A with heating & cooling both. The outdoor unit shall be a factory assembled unit housed in a sturdy weather proof casing constructed from rust-proofed mild steel panels coated with powder coated finish. The outdoor unit shall have scroll compressors and be able to operate even in case of breakdown of one of compressor. Each unit shall be equipped, with an oil separator to ensure stable operation with long refrigerant piping etc. The manufacturer of ODU and compressor shall be same. i.e the make of compressor shall be identicle of the ODU. All compressor shall have inverter technology 1.e, outdoor units shall have all inverter based compressor and all outdoor units shallwork even at 53°C ambient temperature without tripping				
	<b>Outdoor Unit</b>				
	Supplying Gas charged outdoor units equipped with highly efficient scroll compressors, with all Inverter Scroll type compressor(s), special acryl pre-coated heat exchanger, low noise condenser fan, auto check function for connection error etc, centralized controller for individual control complete as per OEM specifications of Following Capacity. Chinese Manufacturing Machinery is not Acceptable				
	Out Door Unit - 36 HP Top Discharge (20 HP + 16 HP)	1	Nos.		
	ODU Connecting KIT	1	Nos.		
B	<b>Supply of Indoor Units:</b>				
	Hi-wall Type Unit - 0.83 TR	3	Nos.		
	Hi-wall Type Unit - 1.02 TR	1	Nos.		
	Hi-wall Type Unit - 1.30 TR	5	Nos.		
	Hi-wall Type Unit - 1.60 TR	2	Nos.		
	Hi-wall Type Unit - 2.02 TR	1	Nos.		
	4 Way Cassette Type Unit - 1.60 TR	1	Nos.		
	4 Way Cassette Type Unit - 2.02 TR	3	Nos.		
	4 Way Cassette Type Unit - 3.02 TR	2	Nos.		
	4 Way Cassette Type Unit - 3.50 TR	1	Nos.		
C	Supplying of Imported fittings (Ref Net) Y-joints etc as per specifications as required complete in all respects.	18	Nos.		
D	Supplying of Cordles Remote with IR Reciver reqd. to operate the indoor Hi-wall & Cassette units as per specification mentioned in the bidding document and as per standard guidelines etc. as required.	19	Nos.		
<b>TOTAL PART A</b>					
<b>PART B : Supply, Installation, Testing and Comissioning of Centralised Air-conditioning system as per specifications and drawings</b>					
1	Installation , testing and commissioning of Air-cooled type airconditioning VRV outdoor condensing units with MS Stand ,Gas Charging,Vaccumisation and Pressure testing.				
	Out Door Unit - 36 HP Top Discharge (20 HP + 16 HP)	1	LS		
2A	Installation , testing and commissioning of indoor units as per BOQ				
	Hi-wall type Units	12	Nos		
	4 Way Cassette Type Unit	7	Nos		
3	Supplying, installation, testing and commissioning of following sizes of refrigerant copper piping work with 19/13mm thick closed cell elastomeric nitrile rubber tubular				

	insulation between each set of indoor and outdoor units as per specifications duly painted with protective ultra violet paint complete as required. All piping works inside the class room shall be duly supported with MS hangers and clamps.				
	41.3mm outer dia (insulation 19mm)	25	Mtrs.		
	34.6mm outer dia (insulation 19mm)	10	Mtrs.		
	28.6mm outer dia (insulation 19mm)	15	Mtrs.		
	22.2mm outer dia (insulation 19mm)	20	Mtrs.		
	19.1mm outer dia (insulation 19mm)	40	Mtrs.		
	15.9mm outer dia (insulation 13mm)	60	Mtrs.		
	12.7mm outer dia (insulation 13mm)	90	Mtrs.		
	9.5mm outer dia (insulation 13mm)	55	Mtrs.		
	6.4mm outer dia (insulation 13mm)	80	Mtrs.		
4	Supply and installation of GI tray of following sizes including horizontal and vertical bends, cross member with suitable hangers and supports complete as required.				
	150mm (wide) x 50mm(depth) x 1.6mm (thick)	20	Mtrs.		
5	Supplying, installation, testing and commissioning of following sizes of rigid PVC piping complete with elbow T-joint, socket duly supported as per specifications and insulated with 6mm thick closed cell nitrile rubber insulation.				
	25 mm	80	Mtrs.		
	32 mm	50	Mtrs.		
6	Supply, Installation, Testing and Commissioning of control cum transmission wiring of 2 corex1.0 sq mm copper wire in suitable PVC conduits between indoor & outdoor units to central remote controllers & for connections between indoor unit to outdoor unit.	320	Mtrs		
7	SITC of MS Stand for VRF Outdoor Units	2	Nos.		
8	SITC of Additional Gas Charging R410A	1	Lot		
9	Designing, Supply, Erection, Testing & commissioning of indoor Type LT cubical panel enclosure (dust, vermin and inter change able modules with facilites for extensions or reduction as per the space or requirments) with digital Voltmeter & Ammeter with R-B-Y Phase Indicator Lamp. fabrication with 2.0 mm CRCA Sheet Powder coated with sienens grey shed (RAL 7032) outdoor Protected type IP-55. cable entry from bottom. Bus BAR - 120 Amp. Approx Size 700X450X300 mm	1	Nos.		
10	Supply and erection of Moulded Case Circuit Breaker (Panel mounting Cubical type) in the existing Cubical Panel (confirm to IEC:60947-2) having Ics=100% Icu, 100% neutral with spreader links and relevant PWD general specifications complete with G.I. Bolts, Nuts & Connection on both sides of MCCB with suitable size of thimbles etc:-				
10.1	TPNMCCB 40 amp. 415volts, 25kA	1	Nos		
10.2	TPNMCCB 63 amp. 415volts, 25kA	1	Nos		
11	Supply, laying and erection of Copper conductor XLPE insulated PVC sheathed armoured and served cable 1100 volts grade as per IS 7098 (Part-1)1988 to be laid loose in the existing trench or pipe as per PWD General Specifications:-				
11.1	Overall size 10sq.mm (3½ Core) Armoured (Loose)	20	Rmt		
11.2	Overall size 6sq.mm (3½ Core) Armoured (Loose)	10	Rmt		
11.3	Overall size 1.5sq.mm (3 Core) Armoured (Loose)	200	Rmt		
<b>TOTAL PART B</b>					
<b>TOTAL PART A + PART B</b>					

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