

BOQ for VRF System					
S. No.	DESCRIPTION	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
A	Part-A : SITC of Equipments				
1	<u>Variable Refrigerant Flow System</u> Supply, Installation, testing and commissioning of variable refrigerant flow modular type airconditioning system complete with indoor and out door units with individual controller and with refrigerant piping, gas charging, control cabling as per following:				
1.1	<u>Outdoor Unit</u>				
a	10 HP	Nos.	2		
b	Gas charging	Kg	RO		
1.2	<u>Indoor Units</u>				
ii)	<u>Hi wall unit</u>				
a	1.5 TR Hi wall unit	Nos.	5		
b	1.0 TR Hi wall unit	Nos.	3		
c	0.8 TR Hi wall unit	Nos.	6		
1.3	Main centralized controller suitable for group of indoor units	Nos.	RO		
1.4	Y-joints and headers etc.	Nos.	28		
1.5	Cordless remote controls for above mentioned VRF indoor units	Nos.	14		
2	<u>DX TYPE TREATED FRESH AIR-5.5 Tons(1500 CFM)(With ODU)</u> Supply, installation, testing and commissioning of 1500 CFM double skin TFA unit , DIDW forward curved centrifugal fan,belt driven motor , 0.6 mm plain /0.6 mm precoated casing , TEFC motor F class motor , cooling coil , 40 mm static , with pre filter floor mounted unit .Unit shall be with with fixed speed condensing unit.	No.	1		
	Expansion kit for TFA	No.	1		
	Total Part A				

BOQ FOR VRF WORK , C-2 STAFF FLAT AT ST. STEPHEN'S COLLEGE

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B	Part-B : SITC of low side VRF work				
3	Refrigerant Piping (VRF) Supply and installation of Interconnecting copper, refrigerant pipe work with (13 mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specs.				
a	22.2 mm O.D.(insulation : 13 mm)	Rmt	20		
b	19.1 mm O.D.(insulation : 13 mm)	Rmt	15		
c	15.9 mm O.D.(insulation : 13 mm)	Rmt	25		
d	12.7 mm O.D.(insulation : 13 mm)	Rmt	40		
e	9.5 mm O.D.(insulation : 13 mm)	Rmt	50		
f	6.4 mm O.D.(insulation : 13 mm)	Rmt	40		
4	Refrigerant Piping for DX TFA unit Supply and installation of pair of Interconnecting copper, refrigerant pipe work with 13 mm thick closed cell elastomeric nitrile rubber tubular insulation between TFA indoor & outdoor units as per specifications.				
a	TFA UNIT				
a	5.5 TR (Circuit Length)	Rm	5		
4	Drain Piping Supply and installation of rigid uPVC piping complete with fittings, supports as per specifications and duly insulated with 6 mm thick closed cell nitrile rubber insulation.				
a	40 mm dia	Rmt	RO		
b	32 mm dia	Rmt	20		
c	25 mm dia	Rmt	80		
5	Control & Transmission Wiring Supply and installation of control cum transmission wiring of 2 Core x 1.5 sqmm copper between VRF indoor and out door unit.				
a	Supply and installation of control cum transmission wiring of 2 Core x 1.5 sqmm copper between VRF indoor and out door unit.	Rm	400		
b	Supply and installation of control cum transmission wiring of 4 Core x 2.5 sqmm copper between DX TFA indoor and out door unit.	Rm	50		

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S. No.	DESCRIPTION	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
6	<u>M.S floor mounted stand</u>				
a	Providing and fixing of MS floor mounted stand with duly painted for VRF outdoor units.	Nos	2		
7	<u>Isolators</u>				
a	Providing and fixing of weather proof electrical isolator with power cabling 2-3 meters.	Nos	2		
9	<u>Rectangular DUCTING</u> :Supply and installation of 24 G Site Fabricated sheet metal ducting complete with support ,gaskets etc. as per drawing and as per standard specifications	Sqm	30		
10	Supply and fixing closed cell nitrile rubber insulation on ducts complete as per specification and drawings: 9 mm thick	Sqm	25		
11	Supply and fixing of duct acoustic lining with open cell nitrile rubber insulation , complete as per specification: 10mm thick.	Sqm	5		
12	Supplying & fixing of powder coated extruded aluminium Supply/Return Air Grills without dampers complete as required.	Sqm	1.5		
13	Supply, installation,testing and commissioning of GI collar dampers as required	Sqm	1.5		
14	<u>Volume Control Damper</u>				
	Supply, Installation, Testing and Commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc., as required.	Sq.M.	1		
15	<u>Exhaust/Fresh Air Louvers:</u>				
	Supplying, installing and testing of exhaust air AI outlet louvers with bird screen complete as per specification & drawings.	Sqm	1		

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S. No.	DESCRIPTION	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
16	Cable Tray (For Terrace only) Supplying and installing following size of perforated hot dip galvanized G.I cable tray with perforations not more than 17.5%, in convenient sections, joined with connectors, suspended from ceiling with G.I suspenders including bolts and nuts, etc. for carrying refrigerant pipe in outdoor application as required.				
a	150 mm width x 50 mm depth x 1.6 mm thickness	Rm	25		
17	<u>Propeller Fan</u> Supply, installation, testing and commissioning of plastic body decorative type propeller fan having in and out louvers, fan, blade, louvers etc., all fans shall be single phase type as per requirement and standards.				
A	200 mm dia	Nos.	2		
B	150 mm dia	Nos.	1		
18	<u>Inline Fans for Toilets</u> Supply, Installation, Testing & Commissioning of circular /rectangular inline fans for exhaust air complete with sheet metal casing, direct driven centrifugal fan. Fan shall be suitable for operation on 220+6 % volts, 50 Hz,1 phase AC power supply. Flanges to be provided on both sides to facilitate duct connections as required .				
a	650 CFM, 20 mm SP	Nos.	1		
b	200 CFM, 15 mm SP	Nos.	1		
19	Power Cabling: Supplying & laying of following copper conductor armoured cables with suitable clamps, saddles fixing bolts including connecting testing and commissioning.				
a	4 C x 10 Sq.mm cable	RM	20		
b	4 C x 6 Sq.mm cable	RM	25		
c	3C x 4 Sqmm cable (Copper)	RM	10		

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S. No.	DESCRIPTION	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
20	<p>PANEL- Outdoor units</p> <p>Location : Close to Units</p> <p>INCOMING :</p> <p>a. 100 A TP MCCB --- 01 Set.</p> <p>b. RYB LED type indication lights --- 01 Set.</p> <p>c. Digital Type Voltmeter (0-500)V --- 01 Set.</p> <p>BUSBARS :</p> <p>Electrolytic grade (E 91 E), 200A capacity TPN aluminium busbar, PVC heat shrunk insulated, supported on DMC/SMC having fault level of 25 KA for 1 second.</p> <p>OUTGOING :</p> <p>a. 40 A FP RCCB for outdoor unit -- 04 Set.</p> <p>Electrical panels as described above.</p>	No	1		
	Total Part B				
	Total Part (A+B)				