

BILL OF QUANTITIES FOR AIR CONDITIONING WORKS AT SBI DEHRADUN MAIN BRANCH, DEHRADUN					
S. No.	Description	Unit	Qty.	Rate	Amount
1	SPLIT/ CASSETTE TYPE AIR CONDITIONERS (one by one independent units)				
	Supplying, erection, testing and commissioning following wall mounted Split/ Roof mounted cassette units of (Toshiba/ Mitsubishi/ Hitachi/ Daikin/ O-General/ Voltas/ Bluestar/ Carrier) with cordless remote complete with all necessary fittings duly insulated with 9 mm thick nitrile rubber pipe insulation with (All coils- copper only) , fan and fan motor, machine control panel improved Refrigerant Joints. Air conditioners shall be fitted with hermetically sealed type suction cooled reciprocating or discharge cooled rotary compressor or scroll compressor. Compressor unit operating on R32/ R-410. All complete as per drawing, approval and instructions of the Architect/ Employer. Item to include powder coated outdoor stands as per the manufacturer specifications. (Rates to be inclusive of copper refrigerent pipe with insulation up to 3M for each split AC unit)				
1.1	1.0 TR split AC 5 star rating inverter type including all necessary fittings and mountings as specified by the manufacturer.	Nos.	2		
1.2	1.5 TR split AC 5 star rating inverter type including all necessary fittings and mountings as specified by the manufacturer.	Nos.	2		
1.3	2TR Cassette AC 2 star and above including all necessary fittings and mountings as specified by the manufacturer.	Nos.	1		
1.4	3TR Cassette AC 2 star and above including all necessary fittings and mountings as specified by the manufacturer.	Nos.	1		
2	Supplying, Installation, Testing & Commissioning of Outdoor VRV/VRF units in modular design complete with 100% inverter type scroll compressor suitable for Heating/ cooling complete with air cooled condenser with low noise fan having inter-connected control wiring, refrigerant piping with standard accessories, duly charged with R32/ R410A refrigerant with suitable size MS channel stand, duly painted complete as required. VRV/VRF system shall be suitable for workin on 49°c ambient temperature with refrigerant R-410a with MS channel outdoor stand of suitable size to carry the weight of outdoor unit inclusive of full charge of Refrigerant Gas & oil etc.complete as required .The Cop of System mentioned below shall be not less than 4.7 at 50 % load,at 45° CDB ambient temp , at 7°CDB,19°CWB inside temp. (Toshiba/ Hitachi/ O-General/ LG/ Daikin/ Voltas/ Blue Star) Item to include powder coated outdoor stands as per the manufacturer specifications. (Combination of outdoor as per oem)				
	Odu 28 Hp (Heating+Cooling)	Nos.	2		
3	CASSETTE/ WALL SPLIT VRF TYPE INDOOR UNIT AIR CONDITIONERS				
	Supplying, Installation, Testing and Commissioning at site of 4 way cassette, Hiwall and Ductable VRF type indoor air-conditioning units with cordless remotes of the following capacity for mounting on ceiling, each comprising of cooling/ heating coil, blower with multi-speed motor, electronic expansion valve, supply and return air grill, filters, insulated connection of refrigerant circuit, intake air port for fresh air entry, condensate water drain pump with electronic level sensor complete, suitable to operate from central remote control & installation from ceiling with all required supports, anchor fasteners hardwares, interconnecting refrigerant copper piping, valves, supports etc. including terminations at nearest power outlet with copper wire of 3 C x 2.5 sq.mm. in metallic flexible conduit and interlocking with outdoor units.				
3.1	1.0 TR wall split unit	Nos.	2		
3.2	2.2 TR 4 way cassette unit	Nos.	1		

3.3	2.6 TR 4 way cassette unit	Nos.	5		
3.4	3.2 TR 4 way cassette unit	Nos.	7		
3.5	4.6 TR 4 way cassette unit	Nos.	1		
4.1	Remote Controller- Cordless remotes	Nos.	14		
4.2	Refnets	Nos.	14		
5.0	COPEER REFRIGERANT PIPING				
	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/ hard drawn copper refrigerant piping for VRV/ VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/ brazing including accessories, insulated with XPLE Class-O tubular insulation/ with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :				
5.1	6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	44.00		
5.2	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	140.00		
5.3	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	70.00		
5.4	15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	60.00		
5.5	19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	100.00		
5.6	22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	10.00		
5.7	25.4 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	5.00		
5.8	28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	25.00		
5.9	31.8 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	R.Mt.	5.00		
6	DRAIN PIPING				
	Providing and fixing drain piping up to drain as directed by the engineer incharge with all accessories e.g. elbows, unions, sockets, reducers, reducing tees, nipples etc. Complete job including cutting chiseling in walls, floor and making good of all chases/ cuts etc. and discharging the drain into a floor trap/ gully as per site conditions with insulation, both as specified by the manufacturer. (make as approved by Architect/ Bank).				
6.1	25 mm dia PVC drain pipe for Split AC	R.Mt.	30.00		
6.2	32 mm dia PVC drain pipe for Cassette AC	R.Mt.	120.00		
7	Providing and fixing of lockable caging for outdoor unit grouted on wall or on roof with open able shutter made of 10 X 10 mm MS square bars placed vertically @ 6" c/c welded with 40 X 3 mm MS flat all- round. Item includes all necessary hardware, priming coat, synthetic enamel paint, hanger, clamps other accessories etc. All complete as per approval and instructions of the Architect/ employer.				
7.1	For 1.0/1.5 TR Hi Wall split units	Nos.	4		
7.2	For 2.0/3.0 TR ceiling mounted cassette unit	Nos.	2		
8	Control & Transmission Wiring				
	Supply, Installation, Testing and Commissioning of control cum transmission wiring of 3 corex1.5 sq mm copper wire in suitable PVC conduits between indoor & outdoor units	R.Mt.	300.00		

8.1	Supplying and laying of Extra Electrical interconnecting control cable from indoor to outdoor of size as specified by the manufacturer suitable for 1.0 /1.5 TR Split type AC (make as approved by Architect/ Bank).	R.Mt.	20.00		
8.2	Supplying and laying of Extra Electrical interconnecting control cables from indoor to outdoor of size as specified by the manufacturer suitable for 2.0 TR Cassette type AC (make as approved by Architect/ Bank).	R.Mt.	40.00		
9	Supplying, installation and commissioning of voltage stablizer of range 140-280 V for Acs (V-guard/ Livguard/ Kirnotics make as approved by Architect/ Bank).				
	4 KVA for 1.0 Tr. Wall mount	Nos.	4		
	5 KVA for 2.0 Tr. Wall mount	Nos.	1		
10	Supplying, installation and commissioning of automatic 24 HRS. programmable TIMER of required capacity to run A.C. alternately (MDS/ L&T/ make as approved by Architect/ Bank).	Nos.	1		
TOTAL FOR AIR CONDITIONING WORKS					
Note:- The rates quoted includes all other taxes , duties , loading, unloading , transportation, other expenses etc to site. Only GST will be paid Extra					