	<u>s</u>	UMMARY (	OF COSTS(	CLARKS	S - LUCKN	OW)		
Item	Description	BLUE STAR - LUCKNOW	MAESTRO ENGINEERS JAIPUR	SIGMA AIRTECH LUCKNOW	SAKSHI AIRCON- JPR. LUCKNOW	ZEEL-LUCKNOW	HALCYON- LUCK-JAIPUR	ESTIMATED
1	HI-SIDE							
A.	EQUIPMENT	1976810	1955000	1747091	2195270	1762390	1826760	1458500
2	LOW-SIDE							
A.	EQUIPMENT	200185	146000	132500	145800	211300	323500	96000
В.	PIPING-CHILLED, AND DRAIN WATER	1407263	1322350	1141226	1594474	1689399	1280310	1069050
C.	AIR DISTRIBUTION	1599417	1579725	1351621	1743616	1665900	1348250	1192650
D.	THERMAL INSULATION	896125	1054950	997145	1127255	1069750	1031125	879650
E.	ELECTRICAL INSTALLATION	188038	251000	195400	195000	202000	351400	229500
	TOTAL	6267838	6309025	5564983	7001415	6600739	6161345	4925350
	GST EXTRA@18% OR APPLICABLE	AS PER GOVT. NOF	RMS					

SCHEDULE OF QUANTITIES																
ENERAL NOTES :																
All items of work under this Contract shall be executed strictly to fulfill the requirements laid of equipment, material specification, methods of installation and testing and type of control shall drawings and the relevant Indian Standards, however capacity of each component and their	l be in accor	dance with th	he specification	ns, approved shop												
The rate for each item of work included in the Schedule of Quantities shall, unless expressly st	ated otherwi	se, include co	ost of:													
a. All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, la full and entire execution, testing, balancing, commissioning and completion of work called for it																
b. Wastage on materials and labour.																
c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, and all other labour necessary in and for the full and entire execution and for the job in accordance.																
d. Liabilities, obligations and risks arising out of Conditions of Contract.																
e. All requirements of Specifications, whether such requirements are mentioned in the item or to be read as complimentary to and part of the Schedule of Quantities and any work called for				nere available, are												
f. In the event of conflict between Schedule of Quantities and other documents including interpretation of the Consultant/Project Manager shall be final and binding.	the Specifi	cations, the I	most stringent	shall apply. The												
All equipments, quantities and technical data indicated in this Schedule are for the Contraction prepared by the Services Consultant. This schedule must be read in conjunction with other quantity of work executed by him in accordance with the approved Shop Drawings at the contraction.	documents															
This Schedule shall be fully priced and the extensions and totals duly checked. The rates for a	ll items shall	be filled in IN	IK including NII	L items.												
No alteration whatsoever is to be made to the text or quantities of this Schedule unless such Any such alterations, notes or additions shall, unless authorized in writing, be disregarded whe				rvices Consultant												
In the event of an error occurring in the amount of the Schedule, as a result of wrong extension tenderer shall be regarded as firm and the extensions shall be amended on the basis of rates.	on of the unit	rate and qua	antity, the unit I	rate quoted by the												
Any error in totaling in the amount column and in carrying forward total shall be corrected. Any this Schedule shall not vitiate this Contract but shall be corrected and deemed to be variation r					1											
The Contractor shall procure and bring Materials/Equipment to the site only on the basis of d not on the basis of Schedule of Quantities which are approximate only. This also applies to the																
The unit rate for all local equipment or materials in Indian Rupees shall include cost of equipment including forwarding, freight, insurance and transport into Contractor's store at site, storage,																
			DI UE CTA	A DALLICANOMA	MAESTR	O ENGINEERS-	S	GMA	SAKSHI AIF	CON(JAIPUR)	7551 1	HOKNOW	HALCYON	-LUCK-JAIPUR	ESTIN	IATED
em Description	Unit	Qty	Rate	AR(LUCKNOW) Amount	Rate	JAIPUR Amount	AIRTECH Rate	(LUCKNOW) Amount	Rate	Amount	ZEEL - L	UCKNOW	Rate	Amount	Rate	Amoun
EQUIPMENT			- 1910				- 1959		- 1010							
Supplying of double skin construction draw thru type AIR HANDLING UNITS as per specification, each complete with following :-																
Supply air centrifugal Forward curved fan with efficiency >65%																

								BLUE STAI	R(LUCKNOW)		ENGINEERS- AIPUR	1	GMA (LUCKNOW)	SAKSHI AIR	CON(JAIPUR)	ZEEL - LI	JCKNOW	HALCYON-	LUCK-JAIPUR	ESTIM	ATED
Item		Description				Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
		for HVAC applications for supply air fa																			
		& display), IP-55 enclosure for use on use any deration of the connected mo																			
		rels of the connected motors are never																			
		characters and programming facility																			1
	terminology. VF	D's shall have builtin harmonic filters.																			1
																					1
	Fach VED man					_															
		nel to be provided with digital display and power consumption.	snowing	g elect	rical parameters lik	e															1
	voitage, current	and power consumption.																			
		be installed in a dedicated external IP-5	5 enclosu	ure and	d the inter connecting	g															,
	wires between o	driver and MCC shall be included.	I																		
C	Coil of conner to	Lube and aluminum construction sized at	mavimum	n face y	velocity of 500 fom																
C.	Con or copper to	and aluminum construction sized at	Παλιπιαπ	i iace	velocity of 500 ipin.																1
d.	Pre Filter ( MER	RV-8 ) in supply air stream																			
е	Squirrel cage in	nduction motors suitable for 415 ± 10	1% volts	50 H	z AC sunnly & hin	h															
J .	efficiency.		. , voito,	JU 11	=, ouppiy a illy																i
	,																				
f.	Fan belt drive p	ackage																			
g.	Vibration isolate	ors and SS 304 drain pan																			
h	Fan outlet veloc	l sity not exceeding 10 mps.																			
11.	ran ouliet veloc	nty not exceeding 10 mps.																			
i.	Height of Ceiling	g Suspended AHU shall not exceed 700	mm.																		
	Tag No.	Floor Space	CFM	TR	Minm Total																
					Static																1
					(mm)																
	<u>Basement</u>																				
	A1111 04	Marking	4000		40	No	1	60220	60220	75000	75000	70000	70000	52600	F2000	70000	70000	04000	04000	49000	49000
	AHU-01	Meeting room	1800	3	40	No.	I	60230	60230	75000	75000	72360	72360	53600	53600	73960	73960	61200	61200	49000	49000
	AHU-02	Reception	1400	3	40	No.	1	52750	52750	70000	70000	63480	63480	47100	47100	65270	65270	48700	48700	44500	44500
	AHU-03	House keeping, Linnen & locker	3700	6	50	No.	1	101045	101045	110000	110000	112680	112680	181400	181400	121370	121370	108900	108900	96000	96000
	AHU-04	Bar sitting area	3300	6	50	No.	1	91960	91960	110000	110000	103680	103680	173000	173000	110810	110810	98900	98900	85000	85000
	AI 10-04	Dai Sitting area	3300	0	30	INU.	'	31300	31300	110000	110000	103000	103000	173000	173000	110010	110010	90900	96900	00000	
	Ground Floor		I.																		
								00110-	1100:5	400000	00000					4-5	00.10				
	AHU-05 & 06	All day dinning	4000	8	50	No.	2	221105	442210	190000	380000	142297	284594	220000	440000	152440	304880	165600	331200	145000	290000
	AHU-07 & 08	All day dinning	4000	8	50	No.	2	232375	464750	190000	380000	121177	242354	245000	490000	165530	331060	165600	331200	125000	250000
			.000			1						.2		2.5550	.50000		33.000	100000	551200		
	AHU-9	Reception, front office & reservation	4500	8	50							450000	4=0000			4004=0	1001=0	176800	176800	145000	145000
						No.	1	234645	234645	199000	199000	158820	158820	256000	256000	168170	168170				1
		GM office, Dir. Office, Mr. Ashok office	1500	3	40							64680	64680		48100	66700	66700	46500	46500	55000	55000
		etc.				No.	1	53985	53985	70000	70000	04000	04000	48100	40100	30700	00700				
			2422		10	ļ.,,														00000	00000
	AHU-11	Lift lobby & Passage	2100	4	40	No.	1	71025	71025	75000	75000	75600	75600	63300	63300	86500	86500	58600	58600	68000	68000
	Terrace Floor									+											
	AHU-12	TFA AHU for Fresh air	4050	30	50	No.	1	141300	141300	125000	125000	137160	137160	128800	128800	168120	168120	213000	213000	138000	138000

							BLUE STA	R(LUCKNOW)	1	ENGINEERS- AIPUR	1	GMA (LUCKNOW)	SAKSHI AIR	CON(JAIPUR)	ZEEL - LI	JCKNOW	HALCYON-	LUCK-JAIPUR	ESTIM	IATED
m	D	escription			Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
Note:																				
Quote	ed price shall include the following:																			
- : AIII	U- 12 shall be provided with thermal	hua als muafila																		
I. AHU	0- 12 shall be provided with thermal	ргеак ргоппе.						+	<del> </del>											
ii AHI	IU- 12 shall be provided with 8 row o	leen coil																		
- 171.70	TE drian so provided may even e																			
iii. AH	HU-01,02,03, 04, 05, 06 ,09, 10, & 11	shall be suitable for	ceiling mo	unted.																
iv. All	AHU's shall be supplied with hydrop	phillic coating on fins																		
									-											
v. Frar	ame-work for coils of all AHU's shall	be SS-304 constructi	on.																	
vi AH	 HU- 05,06, 07, 08, & 09 shall be prov	ided with VED						<del> </del>	<del> </del>											
VI. AI I	10- 03,00, 01, 00, & 09 Shall be prov	ided with VI D.																		
vii. AH	HU- 07, 08, & 12 shall be suitable fo	or Floor mounted.																		
									+											
Supply	lying of vertical / horizontal FAN CC	IL UNITS, blow throu	igh type, ea	ach complete with	3															
	leep chilled water coil, one or more 3																			
	main condensate drain pans, auxilla																			
	iping connections, through copper p																			
	g in conduit upto thermostat boxes.																			
	50 cycles, single phase power supp																			
	cities as listed.	<u> </u>		0 0																
4.0.75																				
1.0 18					No		10005	111100	10000	100000	04.000	405400	17224	450000	40000	447000	04040	100000	44500	1205
1	R nominal capacity				No.	9	12385	111465	18000	162000	21,680	195120	17334	156006	13000	117000	21340	192060	14500	1305
1.5 TR	R nominal capacity				No.	9	12385	111465	18000	162000	21,680	195120 22520	17334 20736		13000 15000	117000 15000	21340 23400	192060 23400	14500 16000	
	R nominal capacity				No.	1	13750		24000		22,520		20736		15000		23400		16000	
						9 1 R/0														1305 160
2.0 TR	R nominal capacity				No.	1	13750		24000		22,520		20736	20736	15000		23400	23400	16000 17500	160
2.0 TR	R nominal capacity				No.	1 R/0	13750	13750 37650	24000	24000	22,520	22520	20736	20736	15000 16000	15000	23400 26700		16000	160
2.0 TR 2.5 TR	R nominal capacity				No.	1 R/0	13750 15110 18825 20560	13750	24000	24000	22,520	22520	20736	20736	15000 16000 18000 20000	15000	23400 26700	23400	16000 17500	380
2.0 TR 2.5 TR 3.0 TR	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity				No. No. No.	1 R/0	13750 15110 18825	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Ilying, of IN LINE FANS suitable for				No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply ducts.	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skir	n, internally acoustic	ally lined a	and constructed o	No. No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW	n, internally acoustic with forward curve in	ally lined a	and constructed o	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	16
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free ex	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  lying, of IN LINE FANS suitable for the casing shall be double skir inised steel. The fan shall be DIDW external rotor motor. The motor sh	n, internally acoustic with forward curve in all be suitable for 2	ally lined an apeller fitter 20±10% vo	and constructed of d with maintenance olt single phase 50	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	16
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  lying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor shall shall be SC supply. Quoted price shall be	n, internally acoustic with forward curve in all be suitable for 2: inclusive of electror	ally lined an expeller fitter 20±10% vonic speed r	and constructed of d with maintenance of single phase 50 regulator and wiring	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	160
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles between	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  lying, of IN LINE FANS suitable for the casing shall be double skir inised steel. The fan shall be DIDW external rotor motor. The motor shall shall be seen fan & speed regulator for single the capacity.	n, internally acoustic with forward curve in all be suitable for 2 inclusive of electror phase fans. Incase	ally lined an peller fitted 20±10% volic speed roof 3 phase	and constructed of with maintenance of single phase 50 regulator and wiring e fans quated price	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles betwee shall b	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor she shall be the same of the capacity of the same of the capacity of the	n, internally acoustic with forward curve in all be suitable for 2: inclusive of electror e phase fans. Incase h cabling between sta	ally lined an peller fitted 20±10% volic speed roof 3 phase arter panel	and constructed of dwith maintenance of single phase 50 regulator and wiring e fans quated price and fan. The	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles between	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor she shall be the same of the capacity of the same of the capacity of the	n, internally acoustic with forward curve in all be suitable for 2 inclusive of electror phase fans. Incase	ally lined an peller fitted 20±10% volic speed roof 3 phase	and constructed of with maintenance of single phase 50 regulator and wiring e fans quated price	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	380
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles betwee shall b	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor she shall be the same of the capacity of the same of the capacity of the	n, internally acoustic with forward curve in all be suitable for 2: inclusive of electror e phase fans. Incase h cabling between sta	ally lined an peller fitted 20±10% volic speed roof 3 phase arter panel	and constructed of dwith maintenance of single phase 50 regulator and wiring e fans quated price and fan. The	No. No. No.	1 R/0	13750 15110 18825 20560	13750 37650	24000 28000 32000	24000	22,520 24,200 29,960	22520 59920	20736 23444 32000	20736 64000 34500	15000 16000 18000 20000	15000 36000	23400 26700 29800	23400	16000 17500 19000	38(
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles betwee shall b Tag N	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor she shall be the same of the capacity of the same of the capacity of the	n, internally acoustic with forward curve in all be suitable for 2 inclusive of electror e phase fans. Incase h cabling between structure in the control of	ally lined an expeller fitter 20±10% voice speed in of 3 phase arter panel Loc Terri	and constructed of with maintenance old with maintenance old single phase 50 regulator and wiring e fans quated price and fan. The CFM	No. No. No. No. No. No. No. No.	1 R/0	13750 15110 18825 20560 Low Quote	13750 37650 20560 52890	24000 28000 32000 36000 50000	24000 64000 36000	22,520 24,200 29,960 31,280	22520 59920 31280	20736 23444 32000 34500 22351	20736 64000 34500 22351	15000 16000 18000 20000 Low Quote	36000 20000 40810	23400 26700 29800 32400	23400 59600 32400 23400	16000 17500 19000 20500	160 380 205
2.0 TR 2.5 TR 3.0 TR Supply ducts. galvan free excycles between shall b Tag No	R nominal capacity  R nominal capacity  R nominal capacity  R nominal capacity  Iying, of IN LINE FANS suitable for the casing shall be double skirnised steel. The fan shall be DIDW external rotor motor. The motor she shall be the same of the capacity of the same of the capacity of the	n, internally acoustic with forward curve in all be suitable for 2: inclusive of electror e phase fans. Incase h cabling between ste  Decription	ally lined an peller fitter 20±10% voic speed roof 3 phase arter panel Loc	and constructed of d with maintenance of single phase 50 regulator and wiring e fans quated price and fan. The CFM	No. No. No.	1 R/0	13750 15110 18825 20560 Low Quote	13750 37650 20560	24000 28000 32000 36000	24000 64000 36000	22,520 24,200 29,960 31,280	22520 59920 31280	20736 23444 32000 34500	20736 64000 34500 22351	15000 16000 18000 20000 Low Quote	36000 20000	23400 26700 29800 32400	23400 59600 32400	16000 17500 19000 20500	388

SCHEDULE OF QUANTITIES  GENERAL NOTES:  All items of work under this Contract shall be executed strictly to fulfill the requirements laid down under "Basis of Design" in the specifications.  The rate for each item of work included in the Schedule of Quantities shall, unless expressly stated otherwise, include cost of:  a. All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, labour and incidentals required in preparation for and  b. Wastage on materials and labour.  c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
All items of work under this Contract shall be executed strictly to fulfill the requirements laid down under "Basis of Design" in the specifications.  The rate for each item of work included in the Schedule of Quantities shall, unless expressly stated otherwise, include cost of:  a. All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, labour and incidentals required in preparation for and  b. Wastage on materials and labour.  c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
The rate for each item of work included in the Schedule of Quantities shall, unless expressly stated otherwise, include cost of:  a. All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, labour and incidentals required in preparation for and  b. Wastage on materials and labour.  c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
a. All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, labour and incidentals required in preparation for and b. Wastage on materials and labour.  c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
b. Wastage on materials and labour.  c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
c. Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of	
d. Liabilities, obligations and risks arising out of Conditions of Contract.	
e. All requirements of Specifications, whether such requirements are mentioned in the item or not. The Specifications and Drawings where	
f. In the event of conflict between Schedule of Quantities and other documents including the Specifications, the most stringent shall apply. The	
3 All equipments, quantities and technical data indicated in this Schedule are for the Contractor's guidance only, these are based on the documents	
4 This Schedule shall be fully priced and the extensions and totals duly checked. The rates for all items shall be filled in INK including NIL items.	
5 No alteration whatsoever is to be made to the text or quantities of this Schedule unless such alteration is authorised in writing by Services	
6 In the event of an error occurring in the amount of the Schedule, as a result of wrong extension of the unit rate and quantity, the unit rate quoted by	
7 Any error in totaling in the amount column and in carrying forward total shall be corrected. Any error, in description or in quantity, omission of items	
8 The Contractor shall procure and bring Materials/Equipment to the site only on the basis of drawings approved for construction and shop drawings	
9 The unit rate for all local equipment or materials in Indian Rupees shall include cost of equipment and materials including all taxes and duties and	
BLUE STAR -LUCKNOW MAESTRO ENGINEERS- SIGMA AIRTECH-LUCK. SAKSHI AIRCON JAIPUR (DAIKIN) JPR.	LUCKNOW HALCYON-LUCK-JPR. ESTIMATED
Item Description Unit Qty Rate Amount Rate	Amount Rate Amount Rate Amount
A. EQUIPMENT	
1 Installation, testing and commissioning of double skin construction draw thru type AIR	
HANDLING UNITS as per specification, each complete with following :-	
a. Supply air centrifugal Forward curved fan with efficiency >65%	
b. VFD designed for HVAC applications for supply air fan with built-in PID controller, control	
panel (keypad & display) , IP-55 enclosure for use on standard centrifugal fans. The VFDs should not cause any deration of the connected motors and must ensure that class B	
temperature levels of the connected motors are never exceeded. The display should be in	
alpha-numeric characters and programming facility should be in user-friendly HVAC terminology. VFD's shall have builtin harmonic filters.	
Each VFD panel to be provided with digital display showing electrical parameters like voltage,	
current and power consumption.	
Each VFD shall be installed in a dedicated external IP-55 enclosure and the inter connecting wires between driver and MCC shall be included.	
WITES DELIVED UTIVE ATU INICO STALL DE ITIGUAÇA.	
c. Coil of copper tube and aluminum construction sized at maximum face velocity of 500 fpm.	
c. Coil of copper tube and aluminum construction sized at maximum face velocity of 500 fpm.  d. Pre Filter ( MERV-8 ) in supply air stream	

Committed Programment   Comm									BLUE STA	AR -LUCKNOW		ENGINEERS-		TECH-LUCK.		II AIRCON IPR.	ZEEL	-LUCKNOW	HALCYON-	LUCK-JPR.	ESTIN	MATED
## deficiency								Qty	Rate	Amount							Rate	Amount	Rate	Amount	Rate	Amount
Vicinity is partied   Part		induction motors suitable for 415	± 10% volts	s, 50 Hz	z, AC sup	ply & high																
Second control of 10 mos.	Fan belt drive	package																				
Height of Calling Suggested All Hard not second 700 mm.   Mark	Vibration isola	ators.																				
Prior Space	Fan outlet vel	ocity not exceeding 10 mps.																				
Part	Height of Ceil	ing Suspended AHU shall not exceed	1 700 mm.																			
AHU-01 Mereing room 1800 3 1 40 No. 1 7535 7535 000 6000 4500 4500 4500 11700 11700 15000 5000 5000 5000 500	Tag No.	Floor Space	CFM	TR		Total Static																
AHU42 Reception 1400 3 0.5 40 No. 1 7585 7585 600 600 4500 4500 4500 11700 11700 11000 15000 5000 AHU433 House keeping Liminer & looker 3700 6 3 50 No. 1 7585 7585 7585 7000 7000 6600 6500 9000 9000 12000 12000 12000 20000 20000 6000 AHU434 Bar string area 3300 6 3 3 50 No. 1 7585 7585 7585 7000 7000 6600 6500 9000 9000 12000 12000 12000 20000 20000 6000 AHU436 Bar string area 3300 8 8 3 50 No. 2 16750 33500 9000 18000 9000 16000 9000 12000 14000 28000 25000 50000 6000 AHU476 & AHU476	Basement																					
ANU-03 House keeping, Inner & looker   \$700   6   3   50   No.   1   7535   7535   7000   7000   6500   6500   9000   12000   12000   20000	AHU-01	Meeting room	1800	3	1	40	No.	1	7535	7535	6000	6000	4500	4500	4500	4500	11700	11700	15000	15000	5000	5
ANU-04 Ber sitting area 3300 6 3 50 No. 1 7535 7535 7000 7000 6500 9000 9000 12000 12000 20000 6000 Ground Floor  ANU-05 80 6 All day denning 4000 8 3 50 No. 2 16750 33500 9000 18000 8000 16000 6000 12000 14000 28000 25000 5000 6000 ANU-07 8 08 All day denning 4000 8 3 50 No. 2 16750 33500 9000 18000 8000 16000 6000 12000 14000 28000 25000 5000 6000 ANU-07 8 08 All day denning 4000 8 3 50 No. 1 16750 16750 10000 10000 8000 18000 12000 14000 14000 28000 25000 5000 6000 ANU-07 8 08 All day denning 4000 8 3 50 No. 1 16750 16750 10000 10000 8000 12000 12000 14000 14000 28000 25000 6000 ANU-07 8 08 All day denning 4000 8 3 5 No. 1 16750 16750 10000 10000 8000 12000 12000 14000 14000 28000 25000 6000 ANU-07 8 08 All day denning 4000 8 3 5 No. 1 16750 16750 10000 10000 8000 12000 12000 14000 14000 28000 25000 6000 ANU-07 8 08 All day denning 4000 8 3 3 No. 1 16750 16750 16750 16750 10000 10000 8000 12000 12000 14000 14000 28000 25000 6000 ANU-07 8 08 All day denning 4000 8 No. 1 16750 167	AHU-02	Reception	1400	3	0.5	40	No.	1	7535	7535	6000	6000	4500	4500	4500	4500	11700	11700	15000	15000	5000	5
Control Floor	AHU-03	House keeping, Linnen & locker	3700	6	3	50	No.	1	7535	7535	7000	7000	6500	6500	9000	9000	12000	12000	20000	20000	6000	6
AHU-05 & Be All day dinning 400 & 8 3 50 No. 2 16750 33500 9000 18000 8000 16000 6000 12000 14000 28000 25000 50000 6000 AHU-07 & De All day dinning 400 & 8 3 50 No. 2 16750 33500 9000 18000 8000 16000 8000 12000 14000 28000 25000 50000 6000 AHU-09 Reception, front office & 4500 & 8 3 50 No. 1 16750 16750 16750 10000 10000 8000 8000 12000 12000 14000 25000 25000 50000 6000 AHU-10 Introduce & 4500 8 3 50 No. 1 17535 7535 7535 8000 8000 4500 4500 4500 4500 1700 11700 11700 15000 15000 AHU-11 Lift lobby & Passage 2100 4 15 S 40 No. 1 7535 7535 8000 8000 8000 4500 4500 4500 4500 1700 11700 11700 20000 20000 5000 AHU-12 FA AHU-17 Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 10000 10000 45000 45000 4500 15000 15000 25000 25000 7500 AHU-12 FA AHU-17 Exhall be provided with Briend break profile.  AHU-12 FA AHU-17 Exhall be provided with Briend break profile.  AHU-13 FA AHU-14 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10 Shall be supplied with bydroghillic coaling on firs   AHU-10	AHU-04	Bar sitting area	3300	6	3	50	No.	1	7535	7535	7000	7000	6500	6500	9000	9000	12000	12000	20000	20000	6000	6
AHU-07 & 08 All day dinning 4000 8 3 50 No. 2 16750 33500 9000 18000 8000 16000 6000 12000 14000 28000 28000 6000 AHU-9 Reception, front office & 4500 8 3 50 No. 1 16750 16750 10000 10000 8000 8000 12000 12000 14000 14000 28000 28000 6000 AHU-10 GM office, Dir. Office, Mr. Ashok 1500 3 0.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 4500 17700 11700 11700 15000 5000 AHU-11 Lift lobby & Passage 2100 4 1.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 6000 6000 17700 11700 20000 20000 5000 Tarrace Floor  AHU-12 IFA AHU-for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 10000 45000 45000 45000 15000 25000 25000 7500 No. 1 8375 8375 15000 15000 10000 45000 45000 45000 15000 15000 25000 7500 No. 1 AHU-12 Lift lobby & Passage 2 100 AHU-12 Trace Floor  AHU-12 IFA AHU-for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 10000 45000 45000 45000 15000 15000 25000 25000 7500 No. 1 AHU-12 Lift lobby & Possided with thermal break profile.  LAHU-12 Shall be provided with thermal break profile.  LAHU-12 Shall be provided with thermal break profile.  LAHU-13 Shall be supplied with thermal break profile.  LAHU-14 Shall be supplied with hydrophillic cooling on fins  V. Frame-work for coils of all AHU-5 shall be suitable for ceiling mounted.  V. Frame-work for coils of all AHU-5 shall be suitable for ceiling mounted.  V. Frame-work for coils of all AHU-5 shall be suitable for ceiling mounted.  V. Frame-work for coils of all AHU-5 shall be suitable for ceiling mounted.	Ground Floo	<u>r</u>																				
AHU-10 GM office, Dir. Office, Mr. Ashok 1500 8 3 50 No. 1 16750 16750 10000 10000 8000 12000 12000 14000 14000 25000 25000 6000 AHU-10 GM office, Dir. Office, Mr. Ashok 1500 3 0.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 4500 11700 11700 15000 5000 AHU-11 Lift lobby & Passage 2100 4 1.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 6000 6000 11700 11700 20000 20000 5000 AHU-12 TFA AHU for Fresh air 4050 30 3 3 50 No. 1 8375 8375 15000 15000 10000 10000 45000 45000 15000 15000 25000 25000 7500 No. 1 8375 8375 15000 15000 10000 10000 45000 45000 15000 15000 25000 25000 7500 No. 1 847U-12 shall be provided with fremal break profile.  If AHU-12 shall be provided with from deep coil.  If AHU-12 shall be supplied with hydrophilic ceating on fins V. Frame-work for coils of all AHU's shall be \$SS.304\$ construction.	AHU-05 & 06	All day dinning	4000	8	3	50	No.	2	16750	33500	9000	18000	8000	16000	6000	12000	14000	28000	25000	50000	6000	12
AHU-10 GM office, Dir. Office, Mr. Ashok 1500 3 0.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 4500 11700 11700 15000 5000 AHU-11 Lift lobby & Passage 2100 4 1.5 40 No. 1 7535 7535 6000 6000 4500 4500 4500 6000 11700 11700 20000 20000 5000 Terrace Floor  AHU-12 TFA AHU for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 15000 15000 45000 4500 450	AHU-07 & 08	All day dinning	4000	8	3	50	No.	2	16750	33500	9000	18000	8000	16000	6000	12000	14000	28000	25000	50000	6000	12
AHU-11 Lift lobby & Passage 2100 4 1.5 40 No. 1 7535 7535 6000 6000 4500 4500 6000 11700 11700 20000 20000 5000  Terrace Floor  AHU-12 TFA AHU for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 10000 45000 45000 45000 15000 25000 7500  Note:  Coucled price shall include the following:  ii. AHU-12 shall be provided with thermal break profile.  iii. AHU-12 shall be provided with thermal break profile.  iii. AHU-13 shall be susphiled with 8 row deep coil.  iii. AHU-15 shall be susphiled with hydrophillic coelling mounted.  iv. All AHU's shall be susphiled with hydrophillic coelling on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.	AHU-9	Reception, front office &	4500	8	3	50	No.	1	16750	16750	10000	10000	8000	8000	12000	12000	14000	14000	25000	25000	6000	6
Terrace Floor  AHU-12 TFA AHU for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 15000 10000 45000 45000 15000 25000 25000 7500  Note:  Quoted price shall include the following:  i. AHU- 12 shall be provided with thermal break profile.  ii. AHU-12 shall be provided with 8 row deep coil.  iii. AHU-10,02,03, 04, 05, 06, 09, 10, & 11 shall be suitable for ceiling mounted.  iv. All AHU's shall be supplied with hydrophillic coeling on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.	AHU-10	GM office, Dir. Office, Mr. Ashok	1500	3	0.5	40	No.	1	7535	7535	6000	6000	4500	4500	4500	4500	11700	11700	15000	15000	5000	5
AHU-12 TFA AHU for Fresh air 4050 30 3 50 No. 1 8375 8375 15000 10000 10000 45000 45000 15000 25000 25000 7500  Note:  Quoted price shall include the following:  i. AHU-12 shall be provided with thermal break profile.  ii. AHU-12 shall be provided with 8 row deep coil.  iii. AHU-01,02,03, 04, 05, 06, 09, 10, &11 shall be suitable for ceiling mounted.  iv. All AHU's shall be supplied with hydrophillic coating on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.	AHU-11	Lift lobby & Passage	2100	4	1.5	40	No.	1	7535	7535	6000	6000	4500	4500	6000	6000	11700	11700	20000	20000	5000	
Note:  Quoted price shall include the following:  i. AHU- 12 shall be provided with thermal break profile.  ii. AHU- 12 shall be provided with 8 row deep coil.  iii. AHU- 12 shall be suitable for ceiling mounted.  iii. AHU- 91,02,03, 04, 05, 06, 09, 10, & 11 shall be suitable for ceiling mounted.  iv. All AHU's shall be supplied with hydrophillic coating on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.	Terrace Flo	<u>or</u>	1	1	ļ																	
Quoted price shall include the following:  i. AHU- 12 shall be provided with thermal break profile.  ii. AHU- 12 shall be provided with 8 row deep coil.  iii. AHU- 13 shall be supplied with 8 row deep coil.  iii. AHU- 13 shall be supplied with hydrophillic coating on fins  iv. All AHU's shall be supplied with hydrophillic coating on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.  vi. AHU- 05,06, 07, 08, & 09 shall be provided with VFD.	AHU-12	TFA AHU for Fresh air	4050	30	3	50	No.	1	8375	8375	15000	15000	10000	10000	45000	45000	15000	15000	25000	25000	7500	7
ii. AHU- 12 shall be provided with thermal break profile.  iii. AHU- 12 shall be provided with 8 row deep coil.  iii. AHU-01,02,03, 04, 05, 06,09, 10, & 11 shall be suitable for ceiling mounted.  iii. AHU's shall be supplied with hydrophillic coating on fins  iv. All AHU's shall be supplied with hydrophillic coating on fins  v. Frame-work for coils of all AHU's shall be SS-304 construction.  vi. AHU-05,06, 07, 08, & 09 shall be provided with VFD.	Note:																					
ii. AHU- 12 shall be provided with 8 row deep coil.  iii. AHU-01,02,03, 04, 05, 06,09, 10, & 11 shall be suitable for ceiling mounted.  iii. AHU shall be supplied with hydrophillic coating on fins  iv. All AHU's shall be SS-304 construction.  v. Frame-work for coils of all AHU's shall be SS-304 construction.  vi. AHU- 05,06, 07, 08, & 09 shall be provided with VFD.	Quoted price	shall include the following:																				
III. AHU-01,02,03, 04, 05, 06, 09, 10, & 11 shall be suitable for ceiling mounted.	i. AHU- 12 sh	all be provided with thermal break pro	ofile.			1																
V. All AHU's shall be supplied with hydrophillic coating on fins	ii. AHU- 12 si	hall be provided with 8 row deep coil.			1	I																
v. Frame-work for coils of all AHU's shall be SS-304 construction.           vi. AHU- 05,06, 07, 08, & 09 shall be provided with VFD.	iii. AHU-01,02	2,03, 04, 05, 06 ,09, 10, & 11 shall be	suitable for c	eiling mo	ounted.	<u> </u>																
vi. AHU- 05,06, 07, 08, & 09 shall be provided with VFD.	iv. All AHU's s	shall be supplied with hydrophillic coa	ating on fins			<u> </u>																
	v. Frame-work	k for coils of all AHU's shall be SS-30	14 construction	).																		
vii. AHU- 07, 08, & 12 shall be suitable for Floor mounted.	vi. AHU- 05,0	6, 07, 08, & 09 shall be provided with	VFD.																			
	vii. AHU- 07,	08, & 12 shall be suitable for Floor r	mounted.		1																	

`							BI HE STA	R -LUCKNOW	MAESTRO	ENGINEERS-	SIGMA AIR	TECH-LUCK.	SAKSH	I AIRCON	7551	LUCKNOW	HALCYON-	LUCK-JPR.	ESTIN	IATED
		.4!		1	11.22	1 0	<u> </u>			IPUR		IKIN)		PR.			5.	A	Б.	
Item 2	Descrip Installation, testing and commissioning of vertical		I COIL LINITS H	low through	Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
_	type, each complete with 3 row deep chilled water																			
	cleanable metalic filters, main condensate drain																			1
	specifications, casing, coil piping connections,																			1
	connections, wiring, control wiring in conduit upto																			1
	suitable for 220 ± 6% volts, 50 cycles, single pha	ase power supply	<ol> <li>Fan Coil Units</li> </ol>	s shall be of																1
	1.0 TR nominal capacity				No.	9	4190	37710	3000	27000	2500	22500	1500	13500	3000	27000	4000	36000	1500	13500
	1.5 TR nominal capacity				No.	1	4190	4190	3000	3000	2500	2500	1800	1800	3000	3000	4500	4500	1500	1500
	1.5 TY Horninal Capacity				140.	<u> </u>	7130	7130	3000	3000	2300	2500	1000	1000	3000	3000	7300	7500	1300	1300
	2.0 TR nominal capacity				No.	R/0	4190		3000		2500		2400		3500		5000		2000	
						_														
	2.5 TR nominal capacity				No.	2	4190	8380	4000	8000	3500	7000	3000	6000	4500	9000	5000	10000	2000	4000
	3.0 TR nominal capacity				No.	1	4190	4190	4000	4000	3500	3500	3500	3500	6500	6500	6000	6000	2500	2500
	o.o Trenominal Supusity				110.		1100	1100	1000	1000	0000	0000	0000	0000	0000	0000	0000	0000	2000	2000
3	Installing, testing and commissioning of IN LINE																			
	vertical or horizontal ducts. The casing shall be																			
	constructed of galvanised steel. The fan shall be																			
	maintenance free external rotor motor. The motor			•																
	phase 50 cycles AC supply. Quoted price shall be wiring between fan & speed regulator for single																			
	price shall be inclusive of DOL starter panel with																			
	incoming nower supply to speed regulator / starte	•	•																	
	Tag No. Deci	ription	Location	CFM																
	Tag No. Dec	приоп	Location	CFIVI																
	IF-1 Toilet Exhaus	st	Terrace	2500	No.	1	4190	4190	2500	2500	8500	8500	1500	1500	5000	5000	6000	6000	2500	2500
	IF-2 Fresh air		Ground Floor	1150	No.	1	4190	4190	2500	2500	7500	7500	1000	1000	5000	5000	6000	6000	2500	2500
							1100													
	TOTAL CARRIED TO SUMMARY							200185		146000		132500		145800		211300		323500		96000
B.	PIPING-CHILLED, AND DRAIN WATER																			
1	Providing and fixing in position the following MS																			
	installed with all welded joints, providing and t		the necessary	fittings like																1
	elbows, tees and reducers, mating flanges & sock	kets for BAS:																		
	125 mm dia MS pipes				RM	20	2136	42720	2000	40000	1957	39140	2351	47020	2200	44000	2190	43800	1800	36000
	100 mm dia MS pipes				RM	20	1721	34420	1650	33000	1577	31540	2022	40440	1700	34000	1560	31200	1500	30000
	Too min ala mo pipoo				1 411	1 20		01120	1000	00000	1011	0.0.0	2022	10110	1700	0.1000	1000	01200	1000	
	80 mm dia MS pipes				RM	20	1204	24080	1250	25000	1153	23060	1572	31440	1500	30000	1210	24200	1050	21000
	65 mm dia MS pipes				RM	60	1017	61020	1000	60000	950	57000	1123	67380	1400	84000	1020	61200	850	51000
	50 mm dia MS pipes				RM	70	788	55160	800	56000	730	51100	984	68880	1300	91000	860	60200	700	49000
	55 did ino pipoo				1 (14)	''	7.00	30100	000	30000	7.00	31100	001	30000	7000	31000	000	00200	700	1,0000
	40 mm dia MS pipes				RM	110	560	61600	650	71500	546	60060	791	87010	1000	110000	640	70400	600	66000
	00 I. MO .				51:	17-	100	0.450-	550	00050	451	70.150	077	4470-0	700	400500	100	0.555		70
	32 mm dia MS pipes				RM	175	483	84525	550	96250	454	79450	674	117950	700	122500	480	84000	450	78750
	25 mm dia MS pipes				RM	50	373	18650	450	22500	355	17750	572	28600	600	30000	320	16000	350	17500
					1 1111		0.0		100			11.50	0.2			30000	020	10000	000	
	20 mm dia MS pipes				RM	60	280	16800	350	21000	269	16140	438	26280	500	30000	260	15600	280	16800
2	Providing and fixing in position the following butter	erfly valves (PN 1	16):																	

`				BLUE STA	R -LUCKNOW		ENGINEERS-	1	TECH-LUCK.		HI AIRCON JPR.	ZEEL-	LUCKNOW	HALCYON-	LUCK-JPR.	ESTIN	MATED
Item	Description	Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
	125 mm dia Valves.	No.	2	5755	11510	7500	15000	6987	13974	8217	16434	4500	9000	12300	24600	9000	
	100 mm dia Valves.	No.	R/o	4627		7000		NQ		7704		3500		10900		8000	
	80 mm dia Valves.	No.	6	3636	21816	6000	36000	3765	22590	6280	37680	2600	15600	8700	52200	7000	42000
	65 mm dia Valves.	No.	R/o	3170		5000		NQ		5243		2200		6700		6000	
	50 mm dia Valves.	No.	R/o	2797		4000		NQ		4440		2050		4600		4000	
3	Providing and fixing in position the following balancing valves (PN 16):																
	125 mm dia Valves.	No.	R/o	20543		20000		NQ		19666		14500		19800		12500	
	100 mm dia Valves.	No.	R/o	14678		15000		NQ		14156		11500		16700		12000	
	80 mm dia Valves.	No.	1	10619	10619	12000	12000	11012	11012	10197	10197	9277	9277	15400	15400	10500	10500
	65 mm dia Valves.	No.	R/o	9119		11000		NQ		9046		8260		12800		7500	
	50 mm dia Valves.	No.	R/o	7763		9000		NQ		7992		7373		8900		7000	
	40 mm dia Valves.	No.	5	5365	26825	7000	35000	5811	29055	6002	30010	5700	28500	5600	28000	5500	27500
	32 mm dia Valves.	No.	3	4483	13449	6000	18000	5060	15180	5350	16050	5150	15450	4800	14400	4250	12750
	25 mm dia Valves.	No.	3	3339	10017	5000	15000	3555	10665	4237	12711	4214	12642	3400	10200	3050	9150
4	Providing and fixing in position following ball valves (PN 16):																
	40 mm dia valves	No.	10	2407	24070	2500	25000	3030	30300	2247	22470	2000	20000	1290	12900	1050	10500
	32 mm dia valves	No.	6	1763	10578	2000	12000	2135	12810	1947	11682	1650	9900	1120	6720	1000	6000
	25 mm dia valves	No.	9	1238	11142	1800	16200	1442	12978	1401	12609	1500	13500	1020	9180	900	8100
	20 mm dia valves	No.	10	992	9920	1500	15000	1310	13100	1326	13260	1200	12000	980	9800	850	8500
5	Providing and fixing in position the following ball valves with Y-strainer (PN 16).																
	25 mm dia pipes	No.	3	3085	9255	2900	8700	2056	6168	3520	10560	3000	9000	2100	6300	2250	6750
	20 mm dia pipes	No.	10	2077	20770	2100	21000	1763	17630	3070	30700	2500	25000	1890	18900	1650	16500
6	Providing and fixing in position the following 'Y' Strainers :																
	80 mm dia strainers	No.	1	6077	6077	7500	7500	3129	3129	6490	6490	5420	5420	10200	10200	4500	4500
	65 mm dia strainers	No.	R/o	5272		6500		NQ		5355		4650		9800		3500	
	50 mm dia strainers	No.	R/o	4602		5500		NQ		4850		3980		8650		3000	
	40 mm dia strainers	No.	5	3399	16995	4500	22500	1371	6855	4490	22450	3860	19300	5200	26000	2500	12500
	32 mm dia strainers	No.	3	2797	8391	3500	10500	1201	3603	4325	12975	3320	9960	4290	12870	2200	6600
	25 mm dia strainers	No.	3	2492	7476	3000	9000	972	2916	3975	11925	3250	9750	3200	9600	2000	6000
7	Supplying, installation, testing and commissioning of Auto air vents.	No.	5	2322	11610	2500	12500	2400	12000	3320	16600	1500	7500	2560	12800	1800	9000

`				BLUE STA	R -LUCKNOW		ENGINEERS-				II AIRCON JPR.	ZEEL	-LUCKNOW	HALCYON-	LUCK-JPR.	ESTIM	IATED
Item	Description	Unit	Qty	Rate	Amount	Rate	Amount	Rate	IKIN) Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
8	Providing and fixing in position the industrial type pressure gauges with gun metal including GI nipple valves.	No.	24	1882	45168	1800	43200	2400	57600	2950	70800	1200	28800	2100	50400	1050	25200
9	Providing and fixing in position the mercury-in- glass industrial type thermometers within brass encasing	No.	24	941	22584	1800	43200	1200	28800	3150	75600	500	12000	2100	50400	1050	25200
10	Supply, installation, testing and commissioning of rigid heavy duty UPVC drain piping suitable for 10 kg/ sqcm pressure rating for indoor units complete with necessary elbow, tees, reducers, brass connector between GI and PVC pipe etc.																
	All drain piping shall be insulated with 6mm thick sleeve of nitrile rubber Superlon/ Aflex/ K flex make having K value of 0.03 W/mK at 10 Deg C mean temperature and minimum density of 50 kg/ cum																
	50 mm dia pipes	Rm	40	1094	43760	490	19600	265	10600	545	21800	1000	40000	326	13040	300	12000
	40 mm dia pipes	Rm	40	882	35280	430	17200	215	8600	465	18600	800	32000	280	11200	250	10000
	32 mm dia pipes	Rm	50	729	36450	410	20500	165	8250	310	15500	700	35000	216	10800	200	10000
	25 mm dia pipes	Rm	50	551	27550	390	19500	135	6750	188	9400	500	25000	165	8250	150	7500
11	Supply, installation, testing and commissioning of TWO WAY MOTORIZED ON/OFF VALVES provided with spring return function & fitted with modulating actuators in chilled water lines at each FCU. The actuator shall have required shut off capability of minimum 4 bar rating. The valves & actuators for FCU shall be compatible with Building Automation System. The valve shall be suitable for following pipe sizes:																
	25 mm dia pipes for FCU	No.	10	11967	119670	8500	85000	12830	128300	10165	101650	24000	240000	8900	89000	7800	78000
	20 mm dia pipes for FCU	No.	3	9916	29748	8000	24000	12321	36963	9095	27285	20000	60000	6700	20100	7000	21000
12	Supply installation, testing and commissioning of <b>TWO WAY MOTORIZED ON/OFF VALVES</b> provided with spring return function & fitted with modulating actuators in hot water lines at AHU wherein 4 pipe system. The actuator shall have required shut off capability of minimum 4 bar rating. The valves & actuators for AHU shall be compatible with Building Automation System. The valve shall be suitable for following pipe sizes:																
	80 mm dia pipes for AHU	No.	1	50238	50238	60000	60000	31618	31618	52729	52729	53300	53300	32400	32400	30500	30500
	65 mm dia pipes for AHU	No.	R/o	43043		50000		29121		36643		47200		28900		28000	
	50 mm dia pipes for AHU	No.	R/o	26941		20000		19067		23043		30000		26500		22500	
	40 mm dia pipes for AHU	No.	5	24721	123605	18000	90000	15800	79000	22080	110400	27000	135000	24500	122500	20500	102500
	32 mm dia pipes for AHU	No.	3	14975	44925	14000	42000	14850	44550	21395	64185	25000	75000	21900	65700	18500	55500
	25 mm dia pipes for AHU	No.	3	11967	35901	10000	30000	12830	38490	19887	59661	24000	72000	18900	56700	16500	49500
13	Supply, installation, testing and commissioning of cooling thermostats for various air handling units & fan coil units.																
	Proportional cooling thermostat at AHU.	No.	12	6670	80040	5000	60000	2500	30000	6505	78060	4000	48000	2890	34680	2450	29400
	Snap acting cooling thermostat at FCU.	No.	13	6373	82849	4000	52000	2500	32500	6077	79001	2000	26000	2190	28470	2450	31850
	TOTAL CARRIED TO SUMMARY				1407263		1322350		1141226		1594474		1689399		1280310		1069050
C.	AIR DISTRIBUTION																

`							BLUE STA	R -LUCKNOW	l	ENGINEERS-	1			I AIRCON	ZEEL	-LUCKNOW	HALCYON-	LUCK-JPR.	ESTIN	MATED
Item	Descripti	ion			Unit	Qtv	Rate	Amount	Rate	IPUR Amount	Rate	IKIN) Amount	Rate	PR. Amount	Rate	Amount	Rate	Amount	Rate	Amount
	Supply, installation and testing of factory fabric standards in accordance with the approved	cated sheet metal du				Qty	Nate	Amount	Nate	Amount	Nate	Amount	Nate	Amount	Nate	Amount	Nate	Amount	Nate	Amount
	Maximum	Gauge																		
	Duct Size																			
	1 -900mm	26			Sq.m.	640	738	472320	680	435200	680	435200	695	444800	870	556800	660	422400	630	403200
	901 -1200 mm	24			Sq.m.	510	831	423810	800	408000	774	394740	759	387090	970	494700	760	387600	725	369750
	1201 -1800 mm	22			Sq.m.	R/o	984		1050		950		866		1050		890		800	
	1801 - 2100 mm	20			Sq.m.	R/o	1162		1250		1050		1209		1200		1020		920	
	2101 - above	18			Sq.m.	R/o	1331		1450		1250		1958		1350		1200		1080	
2	Supply, fabrication, installation and testing the resistant double resin sleeve as per the approve		ns construc	cted of fire	Sqm.	10	6509	65090	3700	37000	2500	25000	2140	21400	2000	20000	1500	15000	1400	14000
3	Supply, installation and testing of GI construct provided with suitable ducts lever and quadrants for proper balancing of the air distribution system.					1	6314	6314	11000	11000	13400	13400	10486	10486	9700	9700	5600	5600	5500	5500
	Supply, installation, testing and commissioning of complete with control panel, inter connecting wi drawings and as per specifications.																			
	Smoke & Fire Dampers.				Sqm.	2	9958	19916	12900	25800	6500	13000	14766	29532	10000	20000	10900	21800	6800	13600
	Control Panel & Wiring (including actuators)				No.	4	13179	52716	12500	50000	9900	39600	21047	84188	11700	46800	7200	28800	5500	22000
5	Supply, installation, testing and balancing of pow Grilles with volume control dampers in accordance.					7	9416	65912	9700	67900	6362	44534	12305	86135	14000	98000	6500	45500	5500	38500
6	Supply, installation, testing and balancing of pow without volume control dampers with adjustable do		aluminium	Air Grilles	Sqm.	4	5924	23696	6800	27200	5112	20448	8025	32100	1100	4400	5600	22400	4500	18000
7	Supply, installation, testing and balancing of Powe square / round shape <b>supply air diffusers</b> with recontrol dampers as per approved drawings and spe	emovable core & anti				15	11263	168945	11900	178500	6864	102960	13375	200625	1100	16500	7600	114000	5250	78750
8	Supply, installation, testing and balancing of Powo Square / round shape return air diffusers with volume control damper as per specifications.					15	7772	116580	9900	148500	5632	84480	10165	152475	7000	105000	6500	97500	4850	72750
9	Supply, Installation, Testing and Balancing of Pow Supply/ Return air <b>Linear Grilles</b> with remova					14	5924	82936	6700	93800	5500	77000	10165	142310	11000	154000	5600	78400	5500	77000
10	Supply, installation, testing and balancing of powor Grilles with volume control dampers in accordance specifications, for toile,					3	9416	28248	8900	26700	7553	22659	13375	40125	11000	33000	7200	21600	6000	18000
11	Supply, installation, testing and balancing of Posupply Air Multi Slot Diffuser complete with ai control damper as per specifications and approved	r pattern controllers				1	11017	11017	11120	11120	14500	14500	15515	15515	15000	15000	16700	16700	11500	11500
12	Supply, installation, testing and commissioning of Slot return Air Diffuser with air pattern con					1	9661	9661	8900	8900	9500	9500	11235	11235	15000	15000	25450	25450	10500	10500

`				BLUE STA	R -LUCKNOW		ENGINEERS-	1	TECH-LUCK.		II AIRCON JPR.	ZEEL-	-LUCKNOW	HALCYON-	LUCK-JPR.	ESTIM	IATED
Item	Description	Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
13	Supplying & fixing of opposed blade <b>volume control dampers</b> in supply air duct collars as														26000		0
13	per approved drawings and specifications.	Sqm.	4	5085	20340	6520	26080	5642	22568	10165	40660	11000	44000	6500	20000	5500	22000
																	0
14	Supply, installation, testing and balancing of Powder coated/Anodised extruded aluminium construction. inlet air <b>louvers</b> with bird screen and volume damper for fresh air as per		2	12212	24424	8520	17040	12194	24388	14980	29960	11000	22000		13000		
	specifications and approved shop drawings.	Oqiii.		12212	27727	0020	17040	12154	24300	14300	23300	11000	22000	6500		5800	11600
45															0500		0
15	Supply, installation, testing and balancing of Powder coated/Anodised extruded aluminium construction. <b>louvers with bird screen</b> for exhaust air as per specifications and approved	Sqm.	1	7492	7492	6985	6985	7644	7644	14980	14980	11000	11000	6500	6500	6000	6000
	от о																0000
	TOTAL CARRIED TO SUMMARY				1599417		1579725		1351621		1743616		1665900		1348250		1192650
	Note: All exposed surfaces & duct shall be painted in black mat finish by the HVAC																
D.	THERMAL INSULATION																
1	Supply, installation testing and commissioning of acoustic insulation. Material shall be OPEN																
	CELL NITRILE and all accessories as per specification.																
	25 mm thick acoustic lining	Sqm	155	1704	264120	900	139500	700	108500	802	124310	850	131750	765	118575	695	107725
		-															
2	Supply and installation of External Thermal closed cell crosslinked polyethelene/Nitrile rubber insulation with Self adhesive backing on ducts as per the approved specifications.																
	13 mm thick insulation for supply & return air ducts in SA & RA path	Sqm	870	517	449790	680	591600	700	609000	749	651630	550	478500	690	600300	575	500250
	0 mm thick insulation for supply 8 return oir ducts in CA 8 DA noth	Cam	10	458	4580	620	6200	600	6000	642	6420	450	4500	580	5800	540	5400
	9 mm thick insulation for supply & return air ducts in SA & RA path	Sqm	10	430	4000	020	0200	600	6000	042	0420	450	4500	300	5000	540	3400
3	Supplying, installing and testing of 25 mm thick (pre-moulded pipe section of T.F. quality																
	expanded polystyrene, 24 Kg / M³) insulation on chilled water and condensate drain piping and fitting like valves, flanges union etc. as per the approved shop drawings and specifications.																1
	intuing like valves, manges union etc. as per the approved shop drawings and specifications.																
	40 mm dia pipes	RM	110	272	29920	490	53900	475	52250	567	62370	800	88000	560	61600	480	52800
	32 mm dia pipes	RM	175	229	40075	450	78750	425	74375	513	89775	700	122500	410	71750	445	77875
	25 mm dia pipes	RM	50	187	9350	430	21500	384	19200	353	17650	650	32500	290	14500	305	15250
	20 mm dia pipes	RM	60	145	8700	410	24600	320	19200	288	17280	650	39000	210	12600	225	13500
	20 Hilli dia pipes	KIVI	00	140	0700	410	24000	320	19200	200	17200	030	39000	210	12000	225	13300
4	Supplying, installing and testing of 50 mm thick (pre-moulded pipe section of T.F. quality																
	expanded polystyrene, 24 Kg / M³) insulation on chilled water piping and fitting like valves, flanges union, etc. as per the approved shop drawings and specifications.																1
	nanges union, etc. as per the approved shop drawings and specifications.																
	125 mm dia pipes	Rm	20	848	16960	830	16600	924	18480	1145	22900	1200	24000	1200	24000	850	17000
	400 mm dia ninos	D	20	695	13900	790	15800	640	12800	995	19900	1100	22000	980	19600	725	14500
	100 mm dia pipes	Rm	20	090	19900	190	10000	040	12000	333	19900	1100	22000	900	19000	120	14300
	80 mm dia pipes	Rm	20	534	10680	750	15000	580	11600	888	17760	1000	20000	820	16400	605	12100
	65 mm dia pipes	Rm	60	424	25440	720	43200	524	31440	823	49380	850	51000	710	42600	500	30000
	50 mm dia pipes	Rm	70	323	22610	690	48300	490	34300	684	47880	800	56000	620	43400	475	33250
	TOTAL CARRIED TO SUMMARY				896125		1054950		997145		1127255		1069750		1031125		879650
F	ELECTRICAL INSTALLATION																
1	CONTROL PANELS FOR AHU (WITH DOL /SD STRATER)																

`				BLUE STA	R -LUCKNOW		ENGINEERS-	1	TECH-LUCK. IKIN)	1	II AIRCON PR.	ZEEL	-LUCKNOW	HALCYON-	UCK-JPR.	ESTIM	ATED
Item	Description	Unit	Qty	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
1.1	Design, manufacture, supply, installation, testing and commissioning of the following cubicle type, dead front, sheet steel, wall mounted control panels including anchoring into the wall, wiring, incoming, control/ power cable, earthing & terminating into MCCB in each panel shall be provided by the electrical contractor.																
	All outgoing shall be provided with Stop /Manual /Auto selector switch to facilitate operation through BAS. All starters shall be provided with potential free Contact for Connections to Building Automation System.																
	The panel shall include the following components & accessories.																
	All wiring, control & power cable, cable tray and GI earthing of motors from the panel shall be included. Please refere specification for cable size.																
	MCCB as per the ratings given below, suitable for motor duty and able to withstand fault level																
	DOL/SD starter as HP rating																
	Terminal block for power distribution as required.																
	Contactor, over load relay with built in single phasing protection.																
	Phase indicating lights and indicating light for ON status.																
	Digital voltmeter and digital ammeter.																
	Time delay relay for delayed automatic restart of motor.																
	Wiring for microswitch for stopping the fan when fire damper closes (in case of Fan only).																
	For on/off/remote and local operation, 3 pole single throw switch shall be provided in each panel to facilitate override of the automatic operation.																
	3 No. of Single Pole MCB's Shall be provided at the incoming section of the starter panel for DDC Panel , fire damper actuator & as a spare.																
	All starters shall be provided with suitable potential free contract for connections to the Building Automation System.																
	220 / 24 V Transformer																
	The number of control panels shall be as follows.																
	Suitable rating MPCB along with 0.5 to 1 HP DOL starters.	No.	3	17373	52119	16000	48000	18600	55800	13500	40500	24000	72000	24500	73500	14500	4350
	Suitable rating MPCB along with 1.5 to 2 HP DOL starters.	No.	1	17661	17661	18000	18000	19900	19900	14500	14500	26000	26000	26500	26500	16500	1650
	Suitable rating MPCB along with 3 HP DOL starters.	No.	3	18246	54738	20000	60000	19900	59700	15000	45000	28000	84000	29800	89400	19000	5700
	Suitable rating MPCB for outgoing to 3 HP VFD .	No.	5	12704	63520	25000	125000	12000	60000	19000	95000	4000	20000	32400	162000	22500	11250
	TOTAL CARRIED TO SUMMARY				188038		251000		195400		195000		202000		351400		229500