

CHAPTER - VII

ELV system

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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 7-1 EPABX SYSTEMS					
	Analog EPABX system				
7-1-1.	Supplying, erecting, commissioning and testing analog EPABX CMOS microprocessor based system having common features With remote programming & remote dialing having following other common features. (Accord Matrix or equivalent approved make)- Auto Call Disconnect- (Incoming - Local- STD) with programmable timing- External Call forward with DOSA- Walk in Class of service & trunk reservation- Boss ring & call back on No Reply last caller recall CLI- Hot Line with Delay & with No.- Unsupervised Conference- Serial DISA (DISA with option to dial another No. if Extn. is No Reply)- Programming Flexibility of all features related to timer(41 Timer)- 10 Different group of out going call restriction like 95, 97, 98 etc.Having following capacity.				
	(A) 2 incoming junction line & 6 extensions.	Ea.	7360.00	575.00	7935.00
	(B) 3 incoming junction line & 8 extensions.	Ea.	8395.00	690.00	9085.00
	(C) 4 incoming junction line & 12 extensions.	Ea.	13570.00	805.00	14375.00
	Digital EPABX system				
7-1-2.	SITC of Digital / PCM / TDM EPABX System having SMT design, system with flexible universal slots. Inbuilt Auto attendant facility, Minimum 15 Nos. conference, Analog extension line, Calling GSM, E&M line, PRI / E1 & VOIP program me through Analog telephone digital key from Ethernet, public address cord, shall have unrestricted simultaneous dialing facility, QSIG protocol on PRI, 95 / STD / ISD / Local- Locking, Class of Service, Quick Dial-Single Digit dialing of any two external number, Once only ring device, Boss/Secretary-Do not disturb Facility, Power Down Mode, Hot Line, Hot Outward Dialing, Day Night Mode, Auto Call Back, Barge-in, Call Pick Up & Call Transfer, Call transfer while Ringing with Voice Guide System, (DISA), Caller ID (CLI), CLI Base ECF, CLI Base routing Internet Ready Port, External Music Port, Call Budgeting, Call Cost Calculation (ASMDR), DID Direct Inverse Dialing, External Music Input, Fax Homing, Global Directory Printing with following capacities				
	[A] No of Extension 16, No of Junctions 6, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 48, Operators Console - 01 Compatible : ISDN	Ea.	73462.00	6900.00	80362.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[B] No of Extension 24 , No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 96, Operators Console - 01 Compatible : ISDN	Ea.	83256.00	7800.00	91056.00
	[C] No of Extension 48 , No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN	Ea.	125640.00	10800.00	136440.00
	[D] No of Extension 64 , No of Junctions 12, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 240, Operators Console - 01 Compatible : ISDN and Networking	Ea.	177462.00	16800.00	194262.00
	[E] No of Extension 128 , No of Junctions 24, No of expandable ports : 512, Operators Console - 01 Compatible : ISDN and Networking	Ea.	283082.80	26000.00	309082.80
7-1-2(A)	providing and erecting add on Digital line card suitable for existing system of following ports				
	(a) 8 port	Ea.	16750.00	250.00	17000.00
	(b) 16 port	Ea.	23700.00	300.00	24000.00
7-1-2 (B)	providing and erecting add on Digital PRI T1E1 single card suitable for existing system of following ports suitable for 30 channel	Ea.	35000.00	1000.00	36000.00
7-1-3	providing and erecting Standard Push button telephone (DTMF) Phones	Ea.	520.00	30.00	550.00
7-1-3a.	providing and erecting Digital key phone (12-16 direct key)	Ea.	6900.00	100.00	7000.00
7-1-4	providing and erecting IP Phone with display with all IP system supported	Ea.	9500.00	500.00	10,000
7-1-7	providing and erecting Small EPABX System with In Built 4 Port Voice Mail	Ea.			
	[A] No. Extension - 12 , No. of Junction -4 , No. of expandable ports -24, Operators Console -01 Compatible - ISDN	Ea.	91360.00	8700.00	100060.00
	[B] No. Extension - 16 , No. of Junction -8 , No. of expandable ports -64 , Operators Console -01 Compatible - ISDN	Ea.	116680.00	11000.00	127680.00
	[C] No. Extension -24 , No. of Junction -8 , No. of expandable ports -96 , Operators Console -01 Compatible - ISDN	Ea.	126390.00	12000.00	138390.00

Total
 3156.00
 1040.00
 4162.00
 9882.80
 7000.00
 4080.00
 6000.00
 530.00
 7000.00
 10.000
 1060.00
 1680.00
 1350.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
[D] No. Extension - 48 , No. of Junction -8 , No. of expandable ports -125 , Operators Console -01 Compatible - ISDN		Ea.	161722.00	15000.00	176722.00
[E] No. Extension - 64 , No. of Junction - 16 , No. of expandable ports -256 , Operators Console -01 Compatible - ISDN & networking		Ea.	199306.00	18000.00	217306.00
[F] No. Extension - 128 , No. of Junction - 24 , No. of expandable ports -512 , Operators Console -01 Compatible - ISDN & Networking		Ea.	274771.00	26000.00	300771.00
7-1-8	Supplying & erecting approved make plan instrument having One junction line & One extension (Plan 1 + 1) with boss/secretary facilities with extension CLI & speaker phone instruments .	Ea.	4200.00	300.00	4500.00
7-1-10.	Supplying & erecting push button type telephone instrument having speaker phone Caller ID & hands free dialing system & 30 memories with display system (a) Single line BEETEL/panasonic or equivalent make	Ea.	970.00	30.00	1000.00
7-1-10(a)	Supplying & erecting push button type telephone instrument having speaker phone Caller ID & speaker phone with one touch memory (min.6 nos.)& 99 memories with display system (a) Single line BEETEL/panasonic or equivalent make	Ea.	1490.00	100.00	1590.00
7-1-11.	Supplying & erecting Single line BEETEL/panasonic or equivalent make push button type Cord Less telephone instrument.	Ea.	2800.00	100.00	2900.00
7-1-12.	Supplying & erecting BEETEL/panasonic or equivalent make make push button type Two way Cord Less telephone instrument Speaker Phone having feather light key pad 30 days standby battery life, hands free speaker phone, 19 station speed dialler, inter com with 2 way paging & lock key one touch dialler.	Ea.	6200.00	300.00	6500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 7-2 / CONFERENCE SOUND SYSTEM					
7-2-1	providing & erecting,programming,testing of chairman unit microphone with flexible stem of 480 mm in length and light ring built in loud speaker ,two head phone socket ,attractive design ,priority button for chairman microphone,built in volume control for head phones,chime tone facility to precede chairman priority calls,microphone on/off button,red indicates for microphone is active,frequency response -400Hz to 10kHz,nominal acoustic input -85 dB SPL				
	(ahuja,Philips or equivalent)	Ea.	6900.00	300.00	7000.00
7-2-2	providing & erecting,programming,testing of Delegate unit microphone with flexible stem of 480 mm in length and light ring built in loud speaker ,two head phone socket ,attractive design ,built in volume control for head phones,chime tone facility to precede chairman priority calls,microphone on/off button,red indicates for microphone is active,frequency response -400Hz to 10kHz,nominal acoustic input -85 dB SPL				
	cat-I (ahuja,Philips or equivalent)	Ea.	6200.00	300.00	6500.00
7-2-3	Supplying & erecting dual channel amplifier ,power handling capacity of 180 watt ,four micro phone inputs with independent level control ,built in FM tuner,with preset memories,USB drive & SD card for MP3 playback ,100v /telephone input with priority and VOX,frequency response-80 Hz to 18k Hz Philips / /distortion less than 1% @ rated power up to 50 units				
	(ahuja,Philips or equivalent)	Ea.	12400.00	600.00	13000.00
7-2-4	supplying and erecting ceiling speaker with rated power of 30 watt/power tapping 30/15/7.5 watt available,opening angle 180 degree H * 77 degree V ,sound pressure level 88 dB ,frequency response of 70Hz to 20KHz				
	(ahuja,Philips or equivalent)	Ea.	2700.00	300.00	3000.00
7-2-5	supplying and erecting wall mount speaker with rated power of 30 watt/power tapping 30/15/7.5 watt available,opening angle 180 degree H * 77 degree V ,sound pressure level 88 dB ,frequency response of 70Hz to 20KHz				
	(ahuja,Philips or equivalent)	Ea.	2700.00	300.00	3000.00

total

000.00

5500.00

3000.00

3000.00

000.00

Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
7-2-5	providing and erecting cordless microphone with UHF Diversity handheld wireless microphone/caller wireless complete with receiver and transmitter unit ,Cardiod ,polar pattern,dynamic microphone,LCD display for battery and frequency status and information ,32 preset channels,with compatible groups of 8 channels,14 hrs.battery life,frequency response 80Hz to 18KHz.,RF sensitivity <1.0 Uv,image rejection > 55 dB,dynamic range >95 dB and receiver having 32 channels,S/N ratio>100 dBA,Dynamic range>95 dB,distortion<1%				
	(ahuja,Philips or equivalent)	Ea.	5600.00	400.00	6000.00
SECTION 7-3 SOUND SYSTEM EQUIPMENTS					
AMPLIFIERS					
7-3-1.	Supplying & erecting Philips / Ahuja make or equivalent Amplifier having following specification: Power Output : 65 W (RMS) (90 w Max.) Inputs : 4 Mics & 1 Aux frequency Response :65-13000 Hz+ 3db Tone Controls : Cut type Speaker Matching :4-8-16 ohms 100 V line The amplifier suitable to operate 240V A.C.or 12volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity	Ea	5600.00	100.00	5700.00
7-3-2.	Supplying & erecting Philips / Ahuja / Unisound make or equivalent Amplifier having following specification: Power Output : 100 W (RMS) :(130 W Max.) inputs :5 Mics & 2 Aux. frequency Response :50-15000 Hz+3db Tone Controls :Cut & Boost type Speaker Matching :4-8-ohms 70- 100 V line LED Meter :5 LED Array. The amplifier suitable to operate 240V A.C.& 24 volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity connection	Ea.	7150.00	150.00	7300.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-3-3.	Supplying & erecting Philips Ahuja make or equivalent Amplifier having following specification: Power Output : 250W (RMS) (300W Max.) Inputs : 6 Misc. & 2 Aux. frequency Response : 50-1500HZ 13db Tone Controls : Cut & Boost type LED Meter : 5 LED Arrays The amplifier suitable to operate 240V A.C. & 24volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity connections.	Ea	13000.00	200.00	13200.00
7-3-4.	Supplying & erecting Philips Ahuja make or equivalent Booster Amplifier having power output of 250W (RMS.), suitable to obtain combined power output of two, with 6 mike inputs & suitable to be used independently as a 250watt amplifier in combination with mike & mixer. The booster Amplifier shall be without mike & Aux. input channels, The system shall be suitable to operate on 240V. A.C. & 24 Volts D.C. Battery.	Ea.	11100.00	200.00	11300.00
SECTION 7-4 MIXERS/MIXING CONSOLES					
7-4-1.	Supplying & erecting Mixing Console having channels, Audio mixer with. Echo facility for live performance, Auditorium & stadiums, having following features & facilities.				
	(a)input Channels :- Each channel has separate 6.25mm size balanced phone jack for mike & line for balanced & unbalanced signals.				
	(b)individual gain control for sating optimum level for minimum noise.				
	(c)BASS, MID & TREBLE controls Separately for each input channel.				
	(d)ECHO control for each channel				
	(e)PAN control for echo channel for left or right output				
	(f) AUX Control . To control , level of the channel in final mix to AUX sound output				
	(g)Channel ON/OFF switch				
	(h)ECHO Section :- ECHO, reverb & Chorus effect can be added to all input channel by different setting of Delay, Reverb & Level control.				
	(i)Tape section				

Total	Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
		(j) Aux send & return For sending Pre-feeder output of channel for monitoring or adding a special effect unit.				
		(k) Mono / Stereo output controls				
8200.00		(L) Master faders to control over left & right output				
		(m) Head phone output for monitoring purpose.				
		Technical specification				
		(a) Power Requirement - AC 220-240V 50 Hz DC 24 Volts				
		(b) MIC Output Impedance/gain - 2 K Ohms/ 62 dB				
300.00		(c) Line Output Balance/42 dB — 20 K ohms				
		(d) Impedance / Gain :- 10Kohms unbalance / 42 dB				
		(e) frequency Response - 30 Hz- 20 KHz L / R Line Output (+ 0, -1 dB)				
		(f) Equalization Bass/ - + / - 12 dB at 100Hz Mid / Treble 2 KHz / 10 KHz				
		(g) Outputs, Line Output Line Output Low : -10 dB / -2 dBm Line Output High : 0 dBm / +17 dBm (775 mv / 5.5 V)				
		(h) S/N ratio Line Output Level : > 70 dB (0 dB, 0.775V)				
		The Console shall be mounted on standard Rack, The channel of following numbers.				
		(A) 14 Channel Audio Mixer with ECHO	Ea.	20980.00	500.00	21480.00
		(B) 9 Channel Audio Mixer with ECHO	Ea.	14000.00	500.00	14500.00
	7-4-2.	Supplying & erecting Philips / Ahuja make four channel Echo Mixer Pre-amplifier with following specification. (i) Suitable to operate on 240V.A.C. & 12 V D.C. Battery supply (ii) B.B.D. Delay system ECHO facility on all inputs through ECHO volume, Repeat & Delay system. (iii) Peak LED for setting optimum distortion free input levels (iv) Two outputs, variable for line & fixed for recording (v) Compatible with Audio Mixing consoles	Ea.	3950.00	250.00	4200.00



(c) Fix to 62 cms.

Suppl make cabat distan showt respo of 6 ohms detac & 3 pi

Suppl make Case prote w/c distar respo 1.8m suppl Mtr Jo conn

Suppl make frequ havin 500 C detac 3 m

Supp make spee frequ havin 600 C holde MCF

Supp minic cond angle 100 - & mpc pin / c mro

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 7-5 SPEAKER					
7-5-1.	Supplying & Erecting. Philips/Ahuja make or equivalent speaker system comprising 50W handling capacity with frequency response of 55 -200,00Hz & 16 Ohms impedance with high efficiency 2Nos. of 8 inch full range speakers housed in acoustically suspended enclosure	Ea.	2250.00	30.00	2280.00
7-5-2.	Supplying and erecting Philips / Ahuja make or equivalent Weather & Dust resistant sound column with Aluminium case & Aluminium mesh grille with foam layer under grill, rotary- switch for selecting power taps / impedance having frequency response 150-20000 Hz with following specifications				
	(a) With 4 speakers, capacity of power handling 45W (MAX) & 30 W RMS , each speaker have impedance of respectively 300 ohms / 30 W, 500ohms/20W, 1 - K.ohms/10 W, 2K. ohms / 5W.	Ea.	2300.00	100.00	2400.00
	(b) With 2 speakers having power handling capacity of 23W(MAX) & 15 W (RMS) , each speaker have impedance of respectively 670 ohms/ 15W, 1 K.ohms/ 10W, 2K.ohms / 5W & 4 K. ohms / 2.5W.	Ea.	1550.00	50.00	1600.00
7-5-3.	Supplying & erecting recess wall mounting speaker with 5W rated input power 3.3 K. Ohms / 3W impedance, 100 - 10000 Hz frequency response with 6 inch dia. cone type 8 ohms speakers duly fitted in ABS plastic cabinet of colour match with wall or ceiling of following size.				
	(a) Round Shaped, 230mm dia. Speaker	Ea.	440.00	30.00	470.00
	(b) Square shaped 260 x 260mm size speaker	Ea.	660.00	30.00	690.00
SECTION 7-6 MICROPHONES					
7-6-1.	Supplying microphones stands with sturdy mechanism, treble free movement & positioning of microphones, free from rust with superior quality of chrome plating with following size.				
	(a) Fixed height of 13 Cm.with base dia.12 CMS	Ea	140.00	0.00	140.00
	(b) Fixed height 35 cm & extendable up to 53 cm, with round base of dia. 16 cms.	Ea	300.00	0.00	300.00

Cost of Labour	To No	Description	Unit	Cost of Materials	Cost of Labour	Total
30.00	228	(c) Fixed height 91 cms. & extendable up to 62 cms. with round base of dia. 23 cms.	Ea	520.00	0.00	520.00
	-6-2	Supplying, installing & testing approved make highly sensitive microphone capable to pick up weak sound from longer distance & wider area suitable for stage shows, group singing with frequency response 50 - 16000 Hz. Having sensitivity of 1.6MV / Pa & impedance 250 ohms (Lo -Z). Supplied with quick detachable holder & 10 mtr. twin core cable & 3 pin XLR connector.	Ea.	3100.00	100.00	3200.00
100.00	2400	Supplying, installing & testing approved make Microphone for Speech, Music, & Close to lip singing with inbuilt protection against breath & wind noise with capability to capture sound from long distance & wide area with frequency response 50 - 16000 Hz, having sensitivity 1.8mv / Pa & impedance 430 ohms(Lo -Z) supplied with quick detachable holder, 6 Mtr long. Twin core cable & 3 pin XLR connector.	Ea.	3000.00	100.00	3100.00
50.00	1600.0	Supplying, installing and testing approved make microphone for All purpose , with frequency response of 100 - 11000 Hz, having sensitivity 2.2mv / Pa & impedance 500 Ohms (LO- Z) supplied with quick detachable holder, 6 mtr twin core cable & 3 pin XLR connector.	Ea.	1410.00	90.00	1500.00
470.00		Supplying, erecting & testing Approved make Microphone for announcement, speech & general P.A. application with frequency response of 150 - 10000 Hz having sensitivity 2mv/Pa, & impedance 600 Ohms supplied with quick detachable holder, 6 mtr twin core cable & PCIM / MCIF connector.	Ea.	550.00	50.00	600.00
690.00		Supplying & testing approved make miniature Omni directional electrets condenser Tie Pin microphone with wide angle pickup having frequency response of 100 - 16000 Hz having sensitivity 5mv / Pa & impedance 1000 Ohms supplied with tie pin / clip, 6 mtr. long soft flexible microphone cable & 1.5v mercury battery.	Ea.	630.00	70.00	700.00
140.00						
300.00						

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-6-7.	Supplying & testing wireless microphone system Philips / Unisonix make for 92.5 MHz FM operation With effective range 200 feet with microphone having facility for frequency adjustment & receiver with LED indicator Telescopic antenna with battery cells.	Ea.	2130.00	70.00	2200.00
SECTION 7-7 SIRENS					
7-7-1.	Supplying & erecting approved make Horizontal / Vertical double, mounting type siren, with 8 KM range having 5HP, 440V, 2800 RPM, AC motor with adjustable foundation plate(Kheraj / Jyoti / GEC)	Ea.	30240.00	360.00	30600.00
7-7-2.	Providing cement concrete foundation & with plastering for horizontal siren motor mounting stand of size 60 x 60 x 25 cms. With foundation nuts & bolts of required size, to be fixed at 4 places with each plate of tower, with necessary hard rubber sheet packing 1.2cms. thick.	Ea.	1200.00	350.00	1550.00
7-7-3.	Providing Cement Concrete Foundation with plastering for vertical Siren motor mounting stand of size 150cms. x 150 cms. x 25cm (H) with foundation bolts to be fixed with the plate of tower with necessary hard rubber sheet packing 1.2 cms. thick.	Ea.	2050.00	350.00	2400.00
7-7-4.	Providing & erecting fabricated M.S. angle stand tower for Horizontal siren having height 60/120 cms. made up of 4 Nos. of M.S. Angles of 50mm x 50mm x 5mm & M.S. strips connecting neighbouring vertical supports. The Top stand for mounting siren to be made from 40cms x 40cms x 6mm thick M.S. plates duly welded & painted.				
	(i) for 60 cms. Height	Ea.	2700.00	300.00	3000.00
	(ii) for 120 cms. height	Ea.	3000.00	500.00	3500.00

Total
200.00
30600.00
50.00
200.00
100.00
500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-7-5.	Providing & erecting fabricated MS angle stand tower for vertical siren having height 2.5 mtr made up of 4 Nos. of MS angles of 50 mm x 50 mm x 5 mm & M.S. strips connecting neighbouring vertical supports. The top of stand for mounting siren to be made from 60cms x 60 cms x 6 mm thick M.S. plates duly welded & painted with one coat of red oxide and two coats of enamelled paint.	Ea.	6400.00	1500.00	7900.00
7-7-6.	Providing & erecting roof type 16 G.M.S. sheet cover for protection of horizontal siren of following size fabricated from M.S. angle having size 25 mm x 25 mm x 5mm & roof having control height 0.3mtr & slope on both side made from 16G.M.S. sheet. The Angle iron four legs fixed with foundation with base plate & foundation bolts fixed on terrace with cement concrete foundation on terrace duly painted with one coat of red oxide and two coats of enamelled paint.				
	(i) Size 1.2 mtr. (D) x 1.2 mtr. (W) x 1 mtr (H)	Ea.	4400.00	400.00	4800.00
	(ii) Size 1.2 mtr. (D) x 1.2 mtr. (W) x 1.60 mtr (H)	Ea.	5400.00	600.00	6000.00
7-7-7.	Providing & erecting M.S. Protection roof stand having 3.3 mtr. height made from M.S. angle iron section of 35 mm x35 mm x5 mm with foundation on each six legs. 6 Nos. legs are supported by 25 mm x 25 mm x 5 mm cross M.S. angles with each other rigidly fixed with nuts, bolts also fixed horizontally on siren tower. The main roof & cap made from M.S. sheet of 14 G(2 00 mm) duly welded with standing angles as per drawing. The necessary holes in the top plates of the main roof shall be provided. The whole structure duly painted with one coat of red oxide and two coats of enamelled paint (as per Drawing.)	Ea.	9650.00	150.00	9800.00
7-7-8	providing and erecting Fully Automatic Emergency Light working on 220/250 Volts 50 C/s. AC supply complete with BATTERY of 6 volts, 18 watts Lamps Magnetic relay & Battery charging circuit, and extra output socket, to provide sufficient light continuously for about 4 hours including lamps Emergency Light immediately comes to on by providing bright light when main electric supply fails suddenly. And it is all automatic, controlled by a magnetic relay. It is portable too, can be placed at any convenient point.				
	(b) bulb/led emergency light		1300.00	20.00	1320.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(a) tube emergency light 2feet,20watt ,10AH		2500.00	20.00	2520.00
7-7-9	Providing, erecting & fabricating the M.S. Mesh Siren cover for siren made up from M.S. angles having size 25 mm x.25 mm x 3mm in duty welded with M.S. wire mesh with necessary supports, cover should be painted with one coat of red oxide and two coats of enamelled Paint.				
	(A) For Horizontal Siren	Ea.	550.00	50.00	600.00
	(B) For Vertical Siren	Ea.	690.00	60.00	750.00
SECTION 7-8 REPAIRS TO SIRENS					
7-8-1.	Replacing Aluminium Cast with slotted fins of inner blower & Outer case for surrounding blowers having suitable diameter to fix in existing base of 5 HP siren complete with necessary bolts, nuts & refixing the same.	Ea.	2200.00	200.00	2400.00
7-8-2.	Rewinding, varnishing, backing of siren motor 5HP, 2800 RPM, 440V, A.C. complete including testing for the original speed.	Ea.	1850.00	150.00	2000.00
7-8-3.	Replacing & fixing superior quality metallistic anti-vibration rubber packing of 1.2 cms. Thick for, mounting of siren.size 200 x200 mm	Ea.	330.00	20.00	350.00
7-8-4.	Replacing anti-vibration rubber packing of 1.2 cms. thick for all four legs of mounting stand base late. size 200 x200 mm	Ea.	220.00	20.00	240.00
7-8-5.	Replacing the existing unserviceable worn out set of bearings by new, bearings for heavy duty siren motor.	Ea.	510.00	40.00	550.00
7-8-6.	Painting of Siren motor, blower, siren cover.& stand with foundation plates, Core mesh guard by one coat of red oxide and two coats of enamelled paint.	Job	0.00	1550.00	1550.00

Total
2520.00
600.00
750.00
2400.00
2000.00
350.00
240.00
550.00
50.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-8-7.	Removing the 5 HP siren motor from the existing site with fan blower mounted on the same shaft, from stand, by removing the protective shade & lowering the entire unit with necessary mechanism, & lifted to ground floor loading & unloading with transportation to workshop for repairing with all safety measures required.	Job	0.00	550.00	550.00
7-8-8.	Lifting the 5 H.P. siren motor with Fan blower with necessary mechanism, from ground floor to terrace of the building, re-erecting the same on stand with connection.	Job	0.00	400.00	400.00
7-8-9.	Complete overhauling & Servicing the siren with replacing old rusted worn out foundation, nuts, bolts,	Job	0.00	330.00	330.00
SECTION 7.9 MISC. ELECTRICAL APPLIANCES					
7-9-1	Providing & erecting approved make Fingerprint and card based Premium Door Controller with LCD and Keypad having following features. (A) Optical Fingerprint and Card based Reader (Card personality Module not included) (B) Dot-Matrix LCD and Touch sense Keypad (C) Built-In interfaces like door lock, door sense, exit Reader, Exit switch, Ethernet RS485, Aux Input & Aux Output Port (D) 5000 Events, Access Control, Time Attendance, Tamper Detection (E) 4 LEDS and Buzzer	Ea	24690.00	2350.00	27040.00
7-9-2	Providing & erecting approved make Card Reader having following features. [A] Wiegand / RS232 Interface (B) Power supply from COSEC Door controller or through Separate Adaptor (C) Compatible with any COSEC Door controllers (D) 4 LEDs (Status, Alarm, Allowed and Denied) and Buzzer (E) Tamper Detection	Ea	3470.00	300.00	3770.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-9-3	Providing & erecting approved make Card Personality Module (CPM) having following features (A) EM proximity Card Reader Module [Low frequency] (B) Compatible with any COSEC Door Controllers and COSEC Reader CA (C) Supports EM Proximity Card	Ea	1540.00	140.00	1680.00
7-9-4	Providing & erecting approved make Panel Controller for Multiple Door Controllers having following feature (A) Controls up to 16 Door Conditioners (B) Ethernet RS485, USB, Aux Input and Aux Output Port (C) 10000 Users Capacity and 100000 Events Storage (D) 32-bit processor, 32 MB RAM and 32MB Flash (E) Compact and Elegant Design	Ea	7720.00	700.00	8420.00
7-9-5	Providing & erecting approved make Application Software Platform for 500 Users having following features (A) With 100 Users (B) Expandable up to 500 Users with COSEC USER100 (C) Supports up to 16 Door Controllers (D) Basic Access Control, Basic Time Attendance and Enrolment Management (E) Compatible with all COSEC Hardware (F) Add Other COSEC software Modules on requirement.	Ea	3675.00	350.00	4025.00
7-9-6	Providing & erecting approved make Time Attendance Module (TAM) having following features (A) Comprehensive Time Attendance and Leave Management Software Module (B) For 500 Users [AS per COSEC GE PLATFORM USERS] (C) Attendance and Leave Policy Creation (D) Integration with payroll and HRM (E) Shift Schedule, Holiday Schedule and Past Adjustment (F) Manually Attendance Correction (G) Leave / Tour Application and Approval (H) Report and Charts Generation	Ea	3940.00	370.00	4310.00

Total

1290.00

3420.00

075.00

310.00

Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
7-9-7	Providing & erecting approved make Access Control Module (ACM) having following features (A) Comprehensive Access Control Management (B) For 500 Users [AS PER COSEC GE PLATFORM users] (C) Time, User and Zone Based Access Control (D) Access Zones, Access Modes and Access Levels (E) Advanced Access Control Feature like 2-person rule, First in user rule, Antipas Back, Guard Tour, Duress Detection and More (F) Various Reports Generation	Ea	3940.00	370.00	4310.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
ELV (Extra Low Voltage systems)					
note: (1)these items are to be taken as per written consent from authority as it is professional and costly.(2)make of accessories is same as main items except not available.(3) five year free maintenance with guarantee should be taken in the tender DTP condition.					
Sr.No	Description	Unit			
	Addressable Fire Alarm System				
	Make list : BOSCH /HOCHIKI /ESSER or equivalent				
7-10-1	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have expandable capacity from 2 loops to 16 loops. The Panel must have Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support upto 5000 Cause & Effects entries, with upto 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer to Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits, each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit, which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB.	Ea	11,58,545.00	1,15,855.00	1274400.00
7-10-2	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have expandable capacity from 2 loops to 8 loops. The Panel must have Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support upto 5000 Cause & Effects entries, with upto 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer to Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits, each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit, which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB.	Ea	6,43,636.00	64,364.00	708000.00
7-10-3	SITC of Latitude 2 Loop Card	Ea	96,545.00	9,655.00	106200.00
7-10-4	SITC of Network Module. The Module shall connect Panels and Repeater Panels through RS485. The Module shall use RS485 data at a Baud rate of 115200 Bauds. The Network Module must be configured Master/Slave, Multiple Master/Slave and Peer to Peer networking.	Ea	96,545.00	9,655.00	106200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-5	SITC of Active Repeater Panel to be integrated with Fire Alarm Control Panel, larger display Full colour 800 x 480 LCD with resistive touch screen and automatic back-light dimming and the status of any Fire/Fault of Integrated Fire Alarm Panels. Panel should compliant with EN54-2, EN54-4 and Approved by LPCB	Ea	1,38,382.00	13,838.00	152220.00
7-10-6	SITC of Addressable Combined Fire Alarm and Emergency Lighting Control Panel features 4 loop complete with Network Card . The Panel shall be compliant with EN54-2 and EN54-4. Each loop shall have a capacity of 127 Fire Alarm and Emergency Lighting devices. Each loop current rated at 1 AMP. The Panel shall have 240 x 64 pixel graphic LCD display. The Panel must have 4 inbuilt sounder circuits, 4 programmable inputs, 4 programmable relays, 4.5Amps @ 33 VAC power supply, 20 character location text message. The Panel shall have ability to store 500 events. The panel shall have the capability to charge battery of up to 60 Ah. The panel shall have IP30 protection cabinet. Approved by EN54 Approved Make: Teknoware / Hochiki / Esser	Ea	5,30,391.00	53,039.00	583430.00
7-10-7	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel . The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt one loop and expandable capacity upto 2 loops. The Panel must have large graphic display. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have 240 V AC power supply along with automatic Battery Charger. Approved by LPCB	Ea	1,35,164.00	13,516.00	148680.00
7-10-8	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel . The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt one loop . The Panel must have large graphic display. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have 240 V AC power supply along with automatic Battery Charger. Non-Networkable Approved by LPCB	Ea	99,764.00	9,976.00	109740.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-9	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt 2 loops. The Panel must have large graphic display. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have 240 V AC power supply along with automatic Battery Charger. Approved by LPCB	Ea	1,83,436.00	18,344.00	201780.00
7-10-10	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt 3 loops and expandable upto 4 Loops. The Panel must have large graphic display. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have 240 V AC power supply along with automatic Battery Charger. Approved by LPCB	Ea	2,34,927.00	23,493.00	258420.00
7-10-11	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have expandable capacity upto 4 loops. The Panel must have large graphic display. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have 240 V AC power supply along with automatic Battery Charger. Approved by LPCB	Ea	3,05,727.00	30,573.00	336300.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-12	SITC of Analogue Addressable Control Panel . The Panel must have One Analogue Addressable Loop, 2 Conventional Zones (Maximum 20 detectors per zone) Advanced ASR (Active Signal Reshaping) loop detector for improved noise immunity in harsh environments Day/Night operation, 4 lines of 20 characters LCD display. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The Panel shall have option for change in sensitivity/Alarm verification, 2 Supervised Siren Outputs, Siren pattern selection for on board (switched) and loop devices, Storage of up to 2,000 log events, Built-in communicator (Ademco Contact ID) System LED indications: Power, Fault, Alarm, Pre Alarm, Delay Active, Sirens Silenced, On Test, 2 Auxiliary programmable inputs, 4 PGM outputs (open collector, 200mA sink max current, 30 V max handling), 2 general Relay Outputs (N/O or N/C (jumper selectable) dry contact rating 28 Vdc @ 3 A max. Approved by LPCB	Ea.	96,545.00	9,655.00	106200.00
7-10-13	SITC of Network Module . The Module shall connect Panels and Repeater Panels through RS485. The Module shall use RS485 data at a Baud rate of 115200 Bauds. The Network Module must be configured Master/Slave, Multiple Master/Slave and Peer to Peer net W/working	Ea.	80,455.00	8,045.00	88500.00
7-10-14	SITC of Local LCD Control Repeater Panel to be integrated with Fire Alarm Control Panel. Panel should have 8 lines of 40 characters graphic LCD and shall be compliant with EN54-2, EN54-4 and Approved by LPCB	Ea.	80,455.00	8,045.00	88500.00
7-10-15	SITC of Analogue Addressable Smoke Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	Ea.	3,862.00	386.00	4248.00
7-10-16	SITC of Analogue Addressable Multi-Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	Ea.	4,827.00	483.00	5310.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-17	SITC of Analogue Addressable Multi-Heat Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing. User selectable sensitivity modes 0 to 88 degree Celsius, incorporates Fixed Temperature and Rate Of Rise Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB (EN54: Part 5)	Ea.	3,862.00	386.00	4248.00
7-10-18	SITC of Multi-Criteria Sensor (Smoke+Heat+CO) Features . Low profile - only 2" high, Simple and reliable device addressing, Supports 16 operational modes, Automatic compensation for sensor contamination, Built in Fire test feature, Two built-in power/alarm LEDs, programmable non-polling LEDs, Non-directional Smoke chamber, Vandal resistant security locking feature, 10 years CO sensor life span, Approved by UL and FM	Ea.	17,700.00	1,770.00	19470.00
7-10-19	SITC of sensor common mounting base , includes stainless steel contacts, slim profile - only 8mm, quick connection via square cable clamps, facility for remote indicator, Approved by LPCB	Ea.	483.00	48.00	531.00
7-10-20	SITC of sensor isolator mounting base , includes stainless steel contacts, slim profile - only 8mm, quick connection via square cable clamps, facility for remote indicator, Approved by LPCB	Ea.	2,575.00	257.00	2832.00
7-10-21	SITC of Analogue addressable loop powered Base Sounder , variable sound output 50 - 98 dB(A) (± 2 dB(A)) output at 1 metre, 51 user-selectable tones (all tones EN54-3 compatible), Auto shutdown feature prevents noise-pollution, Approved by LPCB & VdS	Ea.	5,149.00	515.00	5664.00
7-10-22	SITC of addressable loop powered Base sounder with integral Beacon , includes 51 user-selectable tones (all tones EN54-3 compatible), variable sound output 50 - 98 dB(A) (± 2 dB(A)) output at 1 metre, Auto shut down feature prevents noise pollution, 'O' rated beacon to EN-23, IP21 rated for internal use, sounder and beacon can operate independently, Approved by LPCB	Ea.	8,045.00	805.00	8850.00
7-10-23	SITC of Intrinsically Safe Conventional Photoelectric Smoke Detector . The detector shall have removable, High performance chamber, Twin fire LEDs allow 360 degree viewing, supported by range of barriers, Remote indicator output, ATEX Classification to: II 1G EEx ia IIC T5 Tamb=55°C, Suitable for installation in areas at Category 1 (inc all lower categories), Also available in white, ATEX Approved	Ea.	12,873.00	1,287.00	14160.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-24	SITC of Conventional Intrinsically safe Mounting Base . The base shall have low profile, only 8mm, Rugged design, dedicated cable screen terminal, Accepts from 1 to 2.5 sq mm cables, Quick connection via square cable clamps, Electronics free, Approved to SIL2	Ea	805.00	80.00	885.00
7-10-25	SITC of Optical Beam Detector with transmitter and receiver set . The detector shall have 5 - 100 m range, Automatic compensation, Maximum coverage 1500m2, Automatic Signal strength adjustment, Emitter unit can be powered directly from zone (or loop). Features a Latching or Non-Latching fault relay, Full line continuity options, Approved by LPCB & VdS	Ea	80,455.00	8,045.00	88500.00
7-10-26	SITC of Analogue Addressable Single Zone Module with integral Short Circuit Isolator which allow Support single independent zones Up to 6 Conventional Detectors, fully monitored for short/open circuit. Addressing via DIL switches, Approved by LPCB	Ea	14,482.00	1,448.00	15930.00
7-10-27	SITC of Conventional Flame Detector designed for internal use to detect large flames . Class 1 performance as defined in BS EN54-10:2002 (range up to 25m), Single IR technology, Twin LEDs for 360° view, Approved by LPCB & VdS	Ea	48,273.00	4,827.00	53100.00
7-10-28	SITC of IP67 Rated Waterproof Addressable Multi-Heat Sensor which can be used externally and is supplied with its own fixing base which is used to fix the sensor. Flying leads from the sensor connect directly to the loop via waterproof connectors. Approved by LPCB & Vds	Ea	16,091.00	1,609.00	17700.00
7-10-29	SITC of Analogue Addressable Single Input Module , which includes a single monitored input, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	Ea	4,827.00	483.00	5310.00
7-10-30	SITC of Analogue Addressable Single Output Module , which includes a single output, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	Ea	6,438.00	644.00	7080.00
7-10-31	SITC of , Installation Testing & Commissioning of Analogue Addressable Powered Output Module which supplies 24 VDC. at various current levels, 2 mA to 32 mA in increments of 2 mA. User-selectable current output. Includes two monitored inputs. Electronically addressed, Approved by LPCB & Vds.	Ea	20,918.00	2,092.00	23010.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-32	SITC of Installation Testing & Commissioning of Analogue Addressable Main Relay Controller with integral Short Circuit Isolator which Single mains rated relay contact change over relays, Relay Contact Rated at 250 Vac @ 5 A (resistive) & 48 Vdc @ 2 A (resistive), auxiliary monitored input, Addressing via DIL switches, Approved by LPCB.	Ea.	16,091.00	1,609.00	17700.00
7-10-33	SITC of Installation Testing & Commissioning of Analogue Addressable Dual Relay Controller with integral Short Circuit Isolator which allow 2 independently controlled change over relays, Relay Contact Rated at 30 V DC at 1 Amp. having auxiliary monitored input, followed by Analogue Addressable Protocol, Addressing via DIL switches, Approved by LPCB.	Ea.	24,136.00	2,414.00	26550.00
7-10-34	SITC of Installation Testing & Commissioning of Analogue Addressable Dual sounder Controller with integral Short Circuit Isolator which allow Two independent sounder circuits, each fully monitored for open and short circuit faults, Each alarm circuit fused at 1 amp, having auxiliary monitored input, Outputs can be driven continuously or synchronized pressed sounder drive, Addressing via DIL switches, Approved by LPCB.	Ea.	24,136.00	2,414.00	26550.00
7-10-35	SITC of Installation Testing & Commissioning of Analogue Addressable Dual input module with integral Short Circuit Isolator which allow 2 Independent Inputs for Monitoring of Volt Free Contacts. Each Input can be Configured to Monitor either Normally Open or Normally Closed contacts, followed by Analogue Addressable Protocol, Addressing via DIL switches, Approved by LPCB.	Ea.	20,918.00	2,092.00	23010.00
7-10-36	SITC of Analogue Addressable Dual Zone Monitor with integral Short Circuit Isolator which allow Supports two independent zones of 30 conventional detectors each (total 60 conventional detectors). Both zones fully monitored for short/open circuit, Addressing via DIL switches, Approved by LPCB.	Ea.	25,102.00	2,510.00	27612.00
7-10-37	SITC of Analogue Addressable Manual Call Point with Integral Short Circuit Isolator , Analogue Addressable Protocol having, Bi-coloured status LED (red for alarm, amber for (short-circuit), Non-frangible element fitted as standard (conforms to EN54); pulsing/non-pulsing can selectable via panel, Electronically addressed, Approved by LPCB.	Ea.	6,436.00	644.00	7080.00
7-10-38	SITC of Weatherproof Analogue Addressable Manual Call Point with Integral Short Circuit Isolator . The call point shall have Fast response, Integral short-circuit isolator, Bi-coloured status LED, Non-frangible element fitted as standard (conforms to EN54). Surface mounted, IP67 rated, LPCB approved to EN54	Ea.	32,182.00	3,218.00	35400.00
7-10-39	Addressable Call Point PCB	Ea.	4,827.00	483.00	5310.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-40	SITC of Manual Call Point approved to EN54-11:2001, Approved by LPCB Easy to install, push-fit wiring terminals	Ea.	4,627.00	483.00	5310.00
7-10-41	SITC of Intrinsically Safe Conventional Call Point . The device shall supports either a 'Frangible' glass element or a 'Non Frangible' plastic element. Terminals can accommodate up to a 2.5 mm ² solid conductor, ATEX Classification to II 1G Ex ia IIC T4. Rugged design, Approved to EN54 Part 12	Ea.	27,355.00	2,735.00	30090.00
7-10-42	SITC of Intelligent Loop Powered Wall Sounder Beacon , Variable Sound Output 90 ~ 102 dB(A) (±2 dB(A)) output at 1 metre, High Intensity LED technology, 51 User-Selectable Tones (all tones EN54-3 compatible). Approved by LPCB & VdS	Ea.	9,655.00	965.00	10620.00
7-10-43	SITC of Intelligent loop powered wall sounder which provide a range of tones and volumes with a maximum output of up to 102dB(A) (±2dB(A)) with low current consumption, 51 user selectable tones (all tones EN54-3 compatible). Approved by LPCB & VdS	Ea.	8,045.00	805.00	8850.00
7-10-44	SITC of Conventional Weatherproof Sounder Strobe with Xenon Beacon Technology and 32 user-selectable tones, 110 dB(A) at 1 m	Ea.	14,482.00	1,448.00	15930.00
7-10-45	SITC of Ultra small, low cost aspirating smoke detector for easy and discreet installation High sensitivity provided by laser based forward light scatter for reliable early warningSingle sampling pipe up to 50 m in length (still air) False alarms reduced by unique laser sensing technology - able to discriminate against dustRS485 communications built in as standard for networking and remote communications	Ea.	2,89,636.00	28,964.00	318600.00
7-10-46	SITC of Ultra small, low cost aspirating smoke detector for easy and discreet installation High sensitivity provided by laser based forward light scatter for reliable early warningTwo sampling pipes up to 100 m (aggregate) in length (still air) False alarms reduced by unique laser sensing technology - able to discriminate against dust RS485 communications built in as standard for networking and remote communications	Ea.	4,82,727.00	48,273.00	531000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-47	SITC of High sensitivity provided by laser based forward light scatter for reliable early warning Four sampling pipes up to 200m (aggregate) in length (still air) Volt-free Fire-1 and Fault relay outputs are provided for remote monitoring by local fire detection or BMS systems. RS485 communications built in as standard for networking and remote communications Measurement Range (obs/m) - 0.03% to 25% Full Scale Deflection (FSD), 0.0015% to 25% Sensitivity Resolution Particle Sensitivity Range - 0.003 μ to 10 μ Alarm Levels - 4 (Aux, Pre-alarm, Fire 1 and Fire 2)	Ea.	8,04,545.00	80,455.00	885000.00
7-10-48	SITC of Linear Heat Detection Cable, Digital type with Fixed Alarm Type Trigger temperature, 70 Degree Celsius Alarm	Ea.	965.00	97.00	1062.00
7-10-49	SITC of Linear Heat Detection Cable with adjustable alarm set point and re-settable operation compatible with a full range of monitoring devices, outer diameter of 2.8mm to 3mm	Ea.	965.00	97.00	1062.00
7-10-50	SITC of Wireless Weatherproof Wall Sounder with 3 levels of volume adjustment, high output LED beacon and 32 recognized tones loop powered, IP65 protection for exterior mounting	Ea.	57,927.00	5,793.00	63720.00
7-10-51	SITC of Zener Diode Barrier . The barrier shall have, Simple installation onto standard DIN railing, Removable colour-coded terminals for easy connection, accommodate conductors up to 2.5 mm ² , Supports up to two zones of I.S. products, Working voltage 26.5 V at 10 μ A	Ea.	32,182.00	3,218.00	35400.00
7-10-52	SITC of Analogue Addressable Intrinsically safe sounder interface Module which interfaces between Analogue system via conventional sounder O/P's and the intrinsically safe sounder/beacon units via an intrinsically safe barrier. Includes line monitoring for Open or Short circuits on the wiring connected to both the safe and Hazardous areas. Electronically addressed. LPCB Approved	Ea.	27,355.00	2,735.00	30090.00
7-10-53	SITC of Intrinsically Safe Conventional Rate of Rise Heat detector features , Twin LEDs allow 360 degree viewing, Electronics free mounting base, remote indicator output, ATEX classification II 1G EEx ia IIC T5 Tamb = 55 degree, Suitable for installation in areas at Category 1 (inc all lower categories). ATEX Approved	Ea.	16,091.00	1,609.00	17700.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-54	SITC of Graphix Software. It shall have ability to import loop explorer configuration file to graphix file, Drag and drop from device tree to maps, real time graph of device analog values, unlimited map linking, display and control for multiple panels, Event history can be viewed, filtered and exported to text or HTML documents	Ea.	4,82,727.00	48,273.00	531000.00
7-10-55	SITC of Graphix Software. It shall have ability to import loop explorer configuration file to graphix file, Drag and drop from device tree to maps, real time graph of device analog values, unlimited map linking, display and control for multiple panels, Event history can be viewed, filtered and exported to text or HTML documents	Ea.	8,04,545.00	80,455.00	885000.00
7-10-56	SITC of Graphix Software. It shall have ability to import loop explorer configuration file to graphix file, Drag and drop from device tree to maps, real time graph of device analog values, unlimited map linking, display and control for multiple panels, Event history can be viewed, filtered and exported to text or HTML documents	Ea.	16,09,091.00	1,60,909.00	1770000.00
7-10-57	SITC of FireNET FACP 1 Loop Red, UL 864 9th Edition listed, Single Loop analog-addressable, 127 addressable points per SLC loop, Up to 500 Cause & Effect, Built-in help & alarm information screens, Up to 5,000 ft. wire length per SLC loop, Network-able up to 64 Panels Configurable through keypad 3 Programmable Form C relays rated 1 Amp at 30VDC 2 Programmable Notification Appliance Circuits Power per NAC: 2.3 Amps Max Switchable 120/240VAC 50/60 Hz Power supply Programmable Input and Output modules on SLC Loop Programmable Function button Fire Drill button Day and night sensitivity settings Power Supply: 5.25 Amp, regulated & integrated (2) 380mA auxiliary power available rated at 24VDC LCD Display: 8x40 (320 character) Programmable NAC Cadence Patterns: Temporal, Continuous or March and Auxiliary Power options: Continuous Reset-able or Door Holder Power One man walk test - Fire Test Mode	Ea.	1,60,909.00	16,091.00	177000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-58	SITC of FireNET FACP 2 Loop Red UL 864 9th Edition listed Single Loop analog-addressable 127 addressable points per SLC loop Up to 500 Cause & Effect Built-in help & alarm information screens Up to 5,000 ft. wire length per SLC loop Network-able up to 64 Panels Configurable through keypad 3 Programmable Form C relays rated 1 Amp at 30VDC 2 Programmable Notification Appliance Circuits Power per NAC: 2.3 Amps Max Switchable 120/240VAC 50/60 Hz Power supply Programmable Input and Output modules on SLC Loop Programmable Function button Fire Drill button Day and night sensitivity settings Power Supply: 5.25 Amp, regulated & integrated (2) 360mA auxiliary power available rated at 24VDC LCD Display: 8x40 (320 character) Programmable NAC Cadence Patterns: Temporal, Continuous or March and Auxiliary Power options: Continuous Reset-able or Door Holder Power One man walk test - Fire Test Mode	Ea.	2,57,455.00	25,745.00	283200.00
7-10-59	SITC of FireNET FACP 1 Loop, expandable upto 2 Loop UL 864 9th Edition listed,Single Loop analog-addressable,127 addressable points per SLC loop,Up to 500 Cause & Effect Built-in help & alarm information screens,Up to 5,000 ft. wire length per SLC loop,Network-able up to 64 Panels,Configurable through keypad,3 Programmable Form C relays rated 1 Amp at 30VDC,2 Programmable Notification Appliance Circuits, per NAC: 2.3 Amps Max,Switchable 120/240VAC 50/60 Hz Power supply,Programmable Input and Output modules on SLC Loop,Programmable Function button,Fire Drill button,Day and night sensitivity settings Power Supply: 5.25 Amp, regulated & integrated (2) 360mA auxiliary power available rated at 24VDC LCD Display: 8x40 (320 character) Programmable NAC Cadence Patterns: Temporal, Continuous or March and Auxiliary Power options: Continuous Reset-able or Door Holder Power One man walk test - Fire Test Mode	Ea.	1,80,218.00	18,022.00	198240.00

Total

3200.00

340.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-60	SITC of FireNET FACP 2 Loop Red UL 864 9th Edition listed Multi-loop (1-2) analog-addressable, 127 addressable points per SLC loop Up to 500 Cause & Effect Built-in help & alarm information screens Up to 5,000 ft. wire length per SLC loop Network-able up to 64 Panels Configurable through keypad 3 Programmable Form C relays rated 1 Amp at 30VDC 2 Programmable Notification Appliance Circuits Power per NAC: 2.3 Amps Max Switchable 120/240VAC 50/60 Hz Power supply, Programmable Input and Output modules on SLC Loop Programmable Function button Fire Drill button Day and night sensitivity settings Power Supply: 5.25 Amp, regulated & integrated (2) 360mA auxiliary power available rated at 24VDC LCD Display: 8x40 (320 character) Programmable NAC Cadence Patterns: Temporal, Continuous or March and Auxiliary Power options: Continuous Reset-able or Door Holder Power One man walk test - Fire Test Mode	Ea.	2,57,455.00	25,745.00	283200.00
7-10-61	SITC of FireNET FACP 4 Loop Red UL 864 9th Edition listed Multi-loop (1-4) analog-addressable 127 addressable points per SLC loop Up to 500 Cause & Effect Built-in help & alarm information screens Up to 5,000 ft. wire length per SLC loop Network-able up to 64 Panels Configurable through keypad 3 Programmable Form C relays rated 1 Amp at 30VDC 2 Programmable Notification Appliance Circuits Power per NAC: 2.3 Amps Max Switchable 120/240VAC 50/60 Hz Power supply Programmable input and Output modules on SLC Loop Programmable Function button Fire Drill button Day and night sensitivity settings Power Supply: 5.25 Amp, regulated & integrated (2) 360mA auxiliary power available rated at 24VDC LCD Display: 8x40 (320 character) Programmable NAC Cadence Patterns: Temporal, Continuous or March and Auxiliary Power options: Continuous Reset-able or Door Holder Power One man walk test - Fire Test Mode	Ea.	4,82,727.00	48,273.00	531000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-63	SITC of Intelligent Addressable Fire Alarm Control Panel. The Fire Alarm Control panel shall have expandable capacity from 2 to 8 loops with each supporting 127 devices of any combination, and 127 analog sounder bases. It shall have UL listed 10th edition, 4 programmable class B (style Y) NAC circuits rated 2.5 Amps each, Class B or 2 Class A with internal synchronization. The user shall have a choice of using the panel with 5.25 A (charges up to 60 Ah) or 10.25 A (charges up to 100 Ah) power supply. The Panel shall have 3 voltage-free programmable inputs and 5 programmable relay outputs 30 V DC 1 Amp, 7 inch full-color resistive touch screen with intuitive user interface. Up to 24 programmable soft "function keys", Up to 64 user login accounts, Hard-wired fire and trouble routing inputs and outputs, Modular and expandable electronics, 400 sub address points per loop (800 per loop module), Option to "invert" inputs and outputs. The panel shall support up to 5000 programmable Cause and Effects entries; over 40,000 inputs and outputs, 10,000 events log @ 1 second resolution, 2000 software zones, 5000 software groups, 2 AUX 24V output each rated at 900 mA, Can be networked with programmable functionality, Programming via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. UL approved	Ea.	7,08,000.00	70,800.00	778800.00
7-10-64	SITC of Intelligent Addressable Fire Alarm Control Panel. The Fire Alarm Control panel shall have expandable capacity from 2-16 SLC loops with each supporting 127 devices of any combination, and 127 analog sounder bases. It shall have UL listed 10th edition, 4 programmable class B (style Y) NAC circuits rated 2.5 Amps each, Class B or 2 Class A with internal synchronization. The user shall have a choice of using the panel with 5.25 A (charges up to 60 Ah) or 10.25 A (charges up to 100 Ah) power supply. The Panel shall have 3 voltage-free programmable inputs and 5 programmable relay outputs 30 V DC 1 Amp, 7 inch full-color resistive touch screen with intuitive user interface. Up to 24 programmable soft "function keys", Up to 64 user login accounts, Hard-wired fire and trouble routing inputs and outputs, Modular and expandable electronics, 400 sub address points per loop (800 per loop module), Option to "invert" inputs and outputs. The panel shall support up to 5000 programmable Cause and Effects entries; over 40,000 inputs and outputs, 10,000 events log @ 1 second resolution, 2000 software zones, 5000 software groups, 2 AUX 24V output each rated at 900 mA, Can be networked with programmable functionality, Programming via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. UL approved	Ea.	12,87,273.00	1,28,727.00	1416000.00
7-10-65	SITC of Network Vision Annunciator. The Annunciator shall have Full color 7" (800 x 480 pixel) interface. Replicates information displayed at the FACP, Automatic display brightness adjustment, Internal buzzer, Connects via control panel network terminals, Low current, 24V DC powered, Configurable functionality, Enable key-switch, Sheet steel enclosure. UL approved	Ea.	1,54,473.00	15,447.00	169920.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-66	SITC of Network Module. The Module shall connect Panels and Repeater Panels through RS485. The Module shall use RS485 data at a Baud rate of 115200 Bauds. The Network Module must be configured Master/Slave, Multiple Master/Slave and Peer to Peer networking. Approved by UL and FM	Ea	80,455.00	8,045.00	88500.00
7-10-67	SITC of Network Annunciator Panel. The Panel shall have UL 864 9th Edition listed. The Panel shall have large 8-line x 40 character LCD/ Touchscreen display (320 char). Dual RS485 ports for primary fire Panels networking. RS485 slave bus for expansion - up to 32- IO boards or up to 15 serial annunciators and up to 17 IO boards. 2 built-in RS 232 interfaces for programming via a PC and serial printer interface. 4 on board programmable form C relays rated at 1 Amp at 30VDC (Fire, Supervisory, Trouble & Auxiliary). 500mA of auxiliary power available rated at 24VDC. Fire drill function. Approved by UL and CSFM	Ea	1,54,473.00	15,447.00	169920.00
7-10-68	SITC of Analog Multi-Criteria Sensor Features. Low profile - only 2" high including base, variable sensitivity from 0.7 to 4% obs/Ft Simple and reliable device addressing. Automatic compensation for sensor contamination . Built in Fire test feature. Two built-in power/alarm LEDs, programmable non-polling LEDs. Non-directional Smoke chamber. Vandal resistant security locking feature. Approved by UL and FM	Ea	4,827.00	483.00	5310.00
7-10-69	SITC of Photo Electric Smoke Sensor. Features includes Low profile - only 2" high including base, variable sensitivity from 0.7 to 4% obs/Ft Simple and reliable device addressing. Automatic compensation for sensor contamination. Built-in Fire test feature. Two built-in power/alarm LEDs. Programmable non-polling LEDs. Non-directional smoke chamber. Vandal resistant security locking feature. Approved by UL and FM	Ea	4,184.00	418.00	4602.00
7-10-70	SITC of Fixed Temperature/Rate of Rise sensor. Low profile-only 2.00" high, including base, simple and reliable device addressing method. Rate of rise temperature threshold = 15° F/Min. Adjustable threshold temperature = 135° - 160°. Approved by UL and FM	Ea	4,184.00	418.00	4602.00
7-10-71	SITC of Multi-Criteria Sensor (Smoke+Heat+CO) Features. Low profile - only 2" high, Simple and reliable device addressing. Supports 16 operational modes. Automatic compensation for sensor contamination . Built in Fire test feature. Two built-in power/alarm LEDs, programmable non-polling LEDs. Non-directional Smoke chamber. Vandal resistant security locking feature. 10 years CO sensor life span. Approved by UL and FM	Ea	19,309.00	1,931.00	21240.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-72	SITC of Short Circuit Isolator. The device shall have ability to locate between any devices on the SLC loop. Indicate of a single short circuit by a yellow LED, UL Approved	Ea	5,149.00	515.00	5664.00
7-10-73	SITC of Analog Duct Detector ability to detect and limits the spread of smoke throughout building HVAC ducts. Installs quickly and easily. No screens or filters to clean. Rugged gray steel back box with clear cover. Remote LED alarm indication capability. Meets UL 268A requirements. Approved by UL	Ea	38,618.00	3,862.00	42480.00
7-10-74	SITC of Class A Supervised Output Module. The Module shall have Flexible application, Quick response to emergency conditions. Contacts are rated 2.0 Amps@ 24VDC. Programming is highly flexible providing 16 priority states plus zoning capability. Approved by UL and FM	Ea	12,873.00	1,287.00	14160.00
7-10-75	SITC of Fast Response Contact Monitoring Module. The Module shall have UL 864 9th Edition Listed, Single Input contact monitor, can be programmed to monitor Normally Open (NO) or Normally Closed (NC) contacts. operates on Class A or Class B SLC loop. Accepts up to 12 AWG wire. Approved by UL and FM	Ea	8,045.00	805.00	8850.00
7-10-76	SITC of Dual Relay Module 2A @ 30 VDC/ 5A @ 120 VAC. The Module shall have two independently configurable Form C contacts per address. Visible Bi-colored LED is software controlled and can be programmed to blink red or green when polled. The LED can be latched on when activated. Yellow LED indicates a short circuit condition. Programming is highly flexible providing 16 priority states plus zoning capability. operates on Class A or Class B SLC loop. UL 864 Listed. Approved by UL and FM	Ea	11,264.00	1,126.00	12390.00
7-10-77	SITC of Projected Beam Smoke Detector. The device should have standard features including Microprocessor based for Reliability. Simple setup and alignment with signal strength LEDs. Provide 60 feet on center linear protection at a range of 32.8 feet to 328 feet. Automatic compensation for signal drift or dirty lens. Three field adjustable sensitivity settings. Form A alarm and Form B trouble contacts. Color coded emitter (red) and receiver (green) labels for easy recognition. Adjustable to one of the three obscuration settings of 25%, 50% or 70% per span. voltage and RF transient protection. External red LED when alarm condition is indicated. Approved by UL and FM	Fa	96,545.00	9,655.00	106200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-78	SITC of Conventional Zone Module. The Module shall have UL 864 9th Edition listed. Provides an address point for a Zone of up to 25 conventional smoke detector. Blinks green when polled. Latched on red (controlled by panel) when activated. Device address can be programmed with a handheld programmer. Compatible with Class B and Class A wiring. Auxiliary power source provides for the zone detectors. Approved by UL and FM	Ea.	11,264.00	1,126.00	12390.00
7-10-79	SITC of Mini-Horn. The Horn shall have Nominal voltage 24VDC. Jumper for Selectable Temporal 3 or Continuous tone. Horn Frequency of 3100Hz. Input terminals supports 12 to 18 gauge wire. Low Current Consumption. Textured Finish High Impact Plastic Face plate. UL Approved	Ea.	4,827.00	483.00	5310.00
7-10-80	SITC of low profile Horn/Strobe. The device shall have Nominal voltage 24VDC. The device shall produce 100 dBA @ 10ft and has a minimum flash rate of 1Hz regardless of input voltage. The device approved by UL and CSFM	Ea.	12,873.00	1,287.00	14160.00
7-10-81	SITC of Addressable Single Action Manual Pull Station features including Addressable integrated design. All metal construction. Extremely easy to operate. Bi-colored status LED indicates standby and Alarm conditions. Address is programmable in EEPROM. Enclosed switch with glass rod. Terminals accept up to 14AWG wire. ADA compliant. Approved by UL and FM	Ea.	12,808.00	1,281.00	14089.00
7-10-82	SITC of Addressable Dual Action Manual Pull Station features including Addressable integrated design. All metal construction. Extremely easy to operate. Bi-colored status LED indicates standby and Alarm conditions. Address is programmable in EEPROM. Enclosed switch with glass rod. Terminals accept up to 14AWG wire. ADA compliant. Approved by UL and FM	Ea.	13,677.00	1,368.00	15045.00
7-10-83	SITC of Remote alarm indicator that provides visual alarm indication for digital analog addressable sensors that are installed in concealed locations or where the sensor's alarm indicator is not visible to responding personnel. UL Listed	Ea.	3,218.00	322.00	3540.00
7-10-84	SITC of Hybrid Wireless Sounder with Bi-directional wireless communication. Self optimizing wireless amplitude and frequency. 4 Tone Settings, fully addressable and intelligent monitoring functionality operating on 865 MHz with communication range of ≤ 1200 m in open air with Max. sounder output 93 dB(A) @ 1 metre	Ea.	64,364.00	6,436.00	70800.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-85	SITC of Hybrid Wireless Manual Call Point with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, Re settable Element, fully addressable and intelligent monitoring functionality operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	32,182.00	3,218.00	35400.00
7-10-86	SITC of Hybrid Wireless Translator Module. The Module shall feature Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, Loop Powered, allows the connection of up to 126* radio field devices to an addressable fire detection loop, Incorporates a Loop Short Circuit Isolator and an OLED display, operating on 865 MHz with communication range of ≤ 1000 m in open air with field devices and ≤ 2000 m with Expander Module	Ea.	80,455.00	8,045.00	88500.00
7-10-87	SITC of Hybrid Wireless Expander Module with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, Up to 126 Expander Modules shall be configured to any one Translator Module, Supports MESH communications, operating on 865 MHz with communication range of ≤ 1200 m in open air with field devices	Ea.	80,455.00	8,045.00	88500.00
7-10-88	SITC of Hybrid Wireless Single Input Module with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, monitored input, operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	50,204.00	5,020.00	55224.00
7-10-89	SITC of Hybrid Wireless Single Output Module with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, fault monitoring input, operating on 865 MHz with communication range of ≤ 1200 m in open air. The module shall have ability to configure contacts in 2 options, 24VDC output or N/O contact	Ea.	59,536.00	5,954.00	65490.00
7-10-90	SITC of Hybrid Wireless Optical Smoke Sensor with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, in-built magnet test, operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	38,618.00	3,862.00	42480.00
7-10-91	SITC of Hybrid Wireless Multi Sensor with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, in-built magnet test, operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	48,273.00	4,827.00	53100.00
7-10-92	SITC of Hybrid Wireless A1R Heat Sensor with Bi-directional wireless communication, Self optimizing wireless amplitude and frequency, in-built magnet test, operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	38,618.00	3,862.00	42480.00

Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
7-10-93	SITC of Hybrid Wireless Optical Smoke Sensor with Built in Voice Annunciator and VAD with Bi-directional wireless communication, white LED's and 0.5 Hz flash rate. The voice sounder shall have 3 messages in-built, shall produce > 91 dB(A) SPL @ 1 metre for all messages. Self optimizing wireless amplitude and frequency, operating on 865 MHz with communication range of ≤ 1200 m in open air	Ea.	76,110.00	7,611.00	83721.00
Conventional Fire Alarm System					
	Make list : GST /RAVEL /Honeywell or equivalent		-		
7-11-1	SITC of 2 Zone Networking Fire Alarm control Panel, 16X2 Character LCD Display, inbuilt TCP/IP Network, Inbuilt USB Port for Upload and Download data, Single PC software along with the panel & Max. 1000 Panels can be connect in a network can be Monitored & Controlled through software protected dongle - Optional Panel does not have provision to connect Repeater Panel. -	Ea.	22,141.00	2,214.00	24355.00
7-11-2	SITC of 2 Zone GSM Fire Alarm control Panel, - Built in SIM Card holder, Max. 10 Telephone numbers can be updated through software on priority. Notification includes location details, Configurable notification message for All (FIRE/FAULT) or Priority basis -	Ea.	21,111.00	2,111.00	23222.00
7-11-3	SITC of 2 Zone GSM & Networking Fire Alarm control Panel, 16X2 Character LCD Display, inbuilt TCP/IP Network, Inbuilt USB Port for Upload and Download data, Single PC software along with the panel & Max. 1000 Panels can be connect in a network can be Monitored & Controlled through software protected dongle / Built in SIM Card holder, Max. 10 Telephone numbers can be updated through software on priority, Notification includes location details, Configurable notification message for All (FIRE/FAULT) or Priority basis - Optional Panel does not have provision to connect Repeater Panel. -	Ea.	32,439.00	3,244.00	35683.00
7-11-4	SITC of 4 Zone Networking Fire Alarm control Panel, 16X2 Character LCD Display, inbuilt TCP/IP Network, Inbuilt USB Port for Upload and Download data, Optional Provision for GSM port, Single PC software along with the panel & Max. 1000 Panels can be connect in a network can be Monitored & Controlled through software protected dongle - Optional Panel does not have provision to connect Repeater Panel. -	Ea.	25,745.00	2,575.00	28320.00
7-11-5	SITC of 4 Zone GSM for Fire Alarm control Panel, -Built in SIM Card holder, Max. 15 Telephone numbers can be updated through software on priority, Notification includes location details, Configurable notification message for All (FIRE/FAULT) or Priority basis	Ea.	24,716.00	2,471.00	27187.20

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-6	SITC of 4 Zone GSM & Networking Fire Alarm control Panel, 16X2 Character LCD Display, inbuilt TCP/IP Network, Inbuilt USB Port for Upload and Download data, Single PC software along with the panel & Max. 1000 Panels can be connect in a network can be Monitored & Controlled through software protected dongle / Built-in SIM Card holder, Max. 10 Telephone numbers can be updated through software on priority, Notification includes location details, Configurable notification message for All (FIRE/FAULT) or Priority basis - Optional Panel does not have provision to connect Repeater Panel.	Ea.	39,133.00	3,913.00	43046.00
7-11-7	SITC of Software protection Dongle key which supports Max. 1000 panels and it has User / Admin password protected which can be Monitored and controlled all 1000 panels in a network.-	Ea.	1,12,636.00	11,264.00	123900.00
7-11-8	SITC of 2 Zone standalone Fire Alarm control Panel, 16X2 Character LCD Display, provision for zone wise contact and sounder. Panel does not have provision to connect Repeater Panel. Make: Ravel Approval: CE Mark.	Ea.	9,976.00	998.00	10974.00
7-11-9	SITC of Zone wise contact card for 2 zones - RE-102 Fire alarm control panel	Ea.	1,158.00	116.00	1274.00
7-11-10	SITC of Zone wise Sounder card for 2 zones - RE-102 Fire alarm control panel	Ea.	1,158.00	116.00	1274.00
7-11-11	SITC of 4 Zone standalone Fire Alarm control Panel, 16X2 Character LCD Display, provision for zone wise contact and sounder. Panel does not have provision to connect Repeater Panel. Approval: CE Mark.	Ea.	13,195.00	1,319.00	14514.00
7-11-12	SITC of Zone wise contact card for 4 zones - RE-104 Fire alarm control panel	Ea.	2,316.00	232.00	2548.00
7-11-13	SITC of Zone wise Sounder card for 4 zones - RE-104 Fire alarm control panel Make: Ravel	Ea.	2,316.00	232.00	2548.00
7-11-14	SITC of 4 Zone Fire Alarm Control Panel, with 16X2 Character LCD Display, complies with UL - 864 and NFPA-72 Standards. Approval: UL-Listed Optional: 1) Provision to connect zone wise sounder (RE-252S) provided in a separate cabinet. 2) Provision to connect zone wise relay (RE-252C) provided in a separate Cabinet 3) provision to connect repeater Panel through RS-485 with RE-RP Series.	Ea.	20,725.00	2,072.00	22797.00
7-11-15	SITC of Zone wise Relay contact box for 4 zones - RE-2554 fire alarm panel	Ea.	7,256.00	726.00	7982.00
7-11-16	SITC of Zone wise Sounder contact box for 4 zones - RE-2554 fire alarm panel	Ea.	7,256.00	726.00	7982.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-17	SITC of 8 Zone Fire Alarm Control Panel, with 16X2 Character LCD Display, complies with UL - 864 and NFPA-72 Standards. Approval: UL-Listed Optional: 1) Provision to connect zone wise sounder (RE-25ZS) provided in a separate cabinet. 2) Provision to connect zone wise relay (RE-25ZC) provided in a separate Cabinet 3) provision to connect repeater Panel through RS-485 with RE-RP Series.	Ea.	24,265.00	2,426.00	26691.00
7-11-18	SITC of Zone wise Relay contact box for 8 zones - RE-2558 fire alarm panel	Ea.	10,829.00	1,083.00	11912.00
7-11-19	SITC of Zone wise Sounder contact box for 8 zones - RE-2558 fire alarm panel	Ea.	10,829.00	1,083.00	11912.00
7-11-20	SITC of Repeater Panel for RE-2554/RE-2558 with maximum 8 Zone can be monitored, 2 No's of 4 Zone panels or One 8 zone main fire alarm panel can be connected in a single RS-485 network. Approval: CE Mark.	Ea.	16,727.00	1,673.00	18400.00
7-11-21	SITC of Repeater Panel for RE-2554/RE-2558 with maximum 64 zones can be monitored on any combination of 255X series panels, these panels can be connected in a single RS-485 network. Approval: CE Mark.	Ea.	25,037.00	2,504.00	27541.00
7-11-22	SITC of Repeater Panel for RE-2554/RE-2558 with maximum 128 zones can be monitored on any combination of 255X series panels, these panels can be connected in a single RS-485 network. Approval: CE Mark.	Ea.	58,957.00	5,896.00	64853.00
7-11-23	SITC of 12 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	30,573.00	3,057.00	33630.00
7-11-24	SITC of Zone wise relay contact box for 12 Zone - RE-9012 Zone fire Alarm panel	Ea.	15,206.00	1,521.00	16727.00
7-11-25	SITC of Zone wise sounder contact box for 12 Zone - RE-9012 Zone fire Alarm panel	Ea.	15,206.00	1,521.00	16727.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-26	SITC of 16 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	35,400.00	3,540.00	38940.00
7-11-27	SITC of Zone wise relay contact box for 16 Zone - RE-9016 Zone fire Alarm panel	Ea.	18,135.00	1,813.00	19948.00
7-11-28	SITC of Zone wise sounder contact box for 16 Zone - RE-9016 Zone fire Alarm panel	Ea.	18,135.00	1,813.00	19948.00
7-11-29	SITC of 20 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	41,836.00	4,184.00	46020.00
7-11-30	SITC of Zone wise relay contact box for 20 Zone - RE-9020 Zone fire Alarm panel	Ea.	21,015.00	2,101.00	23116.00
7-11-31	SITC of Zone wise sounder contact box for 20 Zone - RE-9020 Zone fire Alarm panel	Ea.	21,015.00	2,101.00	23116.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-32	SITC of 24 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	49,882.00	4,988.00	54870.00
7-11-33	SITC of Zone wise relay contact box for 24 Zone - RE-9024 Zone fire Alarm panel	Ea.	24,893.00	2,489.00	27382.00
7-11-34	SITC of Zone wise sounder contact box for 24 Zone - RE-9024 Zone fire Alarm panel	Ea.	24,893.00	2,489.00	27382.00
7-11-35	SITC of 32 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	62,786.00	6,279.00	69065.00
7-11-36	SITC of Zone wise relay contact box for 32 Zone - RE-9032 Zone fire Alarm panel	Ea.	35,529.00	3,553.00	39082.00
7-11-37	SITC of Zone wise sounder contact box for 32 Zone - RE-9032 Zone fire Alarm panel	Ea.	35,529.00	3,553.00	39082.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-38	SITC of 48 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE- 90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	1,02,370.00	10,237.00	112607.00
7-11-39	SITC of Zone wise relay contact box for 48 Zone - RE-9048 Zone fire Alarm panel	Ea.	49,734.00	4,973.00	54707.00
7-11-40	SITC of Zone wise sounder contact box for 48 Zone - RE-9048 Zone fire Alarm panel	Ea.	49,734.00	4,973.00	54707.00
7-11-41	SITC of 64 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display, Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE- 90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	1,36,595.00	13,660.00	150255.00
7-11-42	SITC of Zone wise relay contact box for 64 Zone - RE-9064 Zone fire Alarm panel	Ea.	64,556.00	6,456.00	71012.00
7-11-43	SITC of Zone wise sounder contact box for 64 Zone - RE-9064 Zone fire Alarm panel	Ea.	64,556.00	6,456.00	71012.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-44	SITC of 96 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display. Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	2,47,253.00	24,725.00	271978.00
7-11-45	SITC of Zone wise relay contact box for 96 Zone - RE-9095 Zone fire Alarm panel	Ea.	93,649.00	9,365.00	103014.00
7-11-46	SITC of Zone wise sounder contact box for 96 Zone - RE-9096 Zone fire Alarm panel	Ea.	93,649.00	9,365.00	103014.00
7-11-47	SITC of 128 Zone Fire Alarm Control panel, with Touch key pad, 20 X 4 Character LCD Display. Inbuilt RS-485 Communication card can connect Max. 16 panels in a single network communication, Peer to Peer network through RS-485 communication Approval: CE Mark. Optionals: 1) Provision to connect zone wise sounder (RE-90ZS) in a separate cabinet. 2) Provision to connect zone wise relay (RE-90ZC) in a separate Cabinet 3) MODBUS Converter (RE-90MB) 4) TCP/IP Module (RE-TCP) 5) SOFT CONNECT software for PC Monitoring 6) Repeater Panel compatible with RE-900 RP Series for monitoring main panels. 7) provision to connect & integrate Conventional Public Address system through RS-485 Communication (REVAC).	Ea.	3,62,062.00	36,206.00	398268.00
7-11-48	SITC of Zone wise relay contact box for 128 Zone - RE-9128 Zone fire Alarm panel	Ea.	1,22,580.00	12,258.00	134838.00
7-11-49	SITC of Zone wise sounder contact box for 128 Zone - RE-9128 Zone fire Alarm panel	Ea.	1,22,580.00	12,258.00	134838.00
7-11-50	SITC of Repeater Panel for RE-900 series Main panels with maximum 32 Zones can be monitor and Maximum 16 (Nodes) main fire alarm control panels and repeaters on any 900 series panels, these panels can be connect in a single RS-485 network. Approval: CE Mark.	Ea.	26,518.00	2,652.00	29170.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-51	SITC of Repeater Panel for RE-900 series Main panels with maximum 128 Zones can be monitor and Maximum 16 (Nodes) main fire alarm control panels and repeaters of any 900 series panels, these panels can be connect in a single RS-485 network. Approval: CE Mark.	Ea.	88,339.00	8,834.00	97173.00
7-11-52	SITC of Repeater Panel for RE-900 series Main panels with maximum 256 Zones can be monitor and Maximum 16 (Nodes) main fire alarm control panels and repeaters of any 900 series panels, these panels can be connect in a single RS-485 network. Approval: CE Mark.	Ea.	1,06,988.00	10,699.00	117687.00
7-11-53	SITC of TCP/IP - Module for Networking & PC Monitoring for RE-900 Series	Ea.	26,389.00	2,639.00	29028.00
7-11-54	SITC of Modbus converter for RE- 900 series panels	Ea.	34,901.00	3,490.00	38391.00
7-11-55	SITC of Software supports for Single Panel Monitoring - RE-900 Series panels	Ea.	38,618.00	3,862.00	42480.00
7-11-56	SITC of Software supports upto 8 panels Monitoring - RE-900 Series panels.	Ea.	38,618.00	3,862.00	42480.00
7-11-57	SITC of Software supports upto 16 panels Monitoring - RE-900 Series panels.	Ea.	38,618.00	3,862.00	42480.00
7-11-58	SITC of 2 Zone Agent release panel with One solenoid output. Approval : CE Mark. Optional: Provision to connect with RE-127GR Repeater panel	Ea.	20,764.00	2,076.00	22840.00
7-11-59	SITC of 4 Zone Agent release panel with 2 solenoid output. Approval: UL Listed. Optional: Provision to connect Repeater panel through RE-45AR and monitor main panel status.	Ea.	43,991.00	4,399.00	48390.00
7-11-60	SITC of Repeater Panel for Gas Agent release panel Compatible with RE-120GR & RE-25AR. Approval: CE Mark.	Ea.	15,977.00	1,598.00	17575.00
7-11-61	SITC of 485 converter for RE-25AR to connect Repeater panel.	Ea.	5,632.00	563.00	6195.00
7-11-62	SITC of ABS type Manual Call Point with flop - Abort (Yellow in Color).	Ea.	1,400.00	140.00	1540.00
7-11-63	SITC of ABS type Manual Call Point with flop - Agent Release (Green in color).	Ea.	1,400.00	140.00	1540.00
7-11-64	SITC of Model No RE-25MBConventional Modbus Converter for RE - 25 AR Fire Alarm Control Panel	Ea.	64,364.00	6,436.00	70800.00
7-11-65	SITC of 2 Amps External Power Supply panel (Self Power)	Ea.	11,746.00	1,175.00	12921.00
7-11-66	SITC of 5 Amps External Power Supply panel (Self Power)	Ea.	14,545.00	1,455.00	16000.00
7-11-67	SITC of ABS Manual Call Point with key - break / Re settable type.	Ea.	886.00	89.00	975.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-68	SITC of ABS Sounder cum strobe - 24V, 85 db	Ea.	2,575.00	257.00	2832.00
7-11-69	SITC of ABS Sounder - 24V, 95-105 db APPROVAL: CE Mark	Ea.	886.00	89.00	975.00
7-11-70	SITC of Response Indicator - Dual LED (Metal square plate type)	Ea.	161.00	16.00	177.00
7-11-71	SITC of Conventional Sounder cum strobe with 24V DC, Audible Sound 75 db @ 1 mtr range (16 V DC). It is used for Fire, Burglar & Emergency Alarm System, Low current consume @ 47 -73 mA. Candela: flashing every second, 4 candela settings: 15/30/75/110cd output and 2 different tone audible sound. Make: Ravel - Approval: UL Listed.	Ea.	9,413.00	941.00	10354.00
7-11-72	SITC of Manual Pull Station - Dual Action - Release Green in color. Approval: UL Listed.	Ea.	6,066.00	607.00	6673.00
7-11-73	SITC of Manual Pull Station - Dual Action - Abort. Yellow in Color. Approval: UL Listed.	Ea.	6,066.00	607.00	6673.00
7-11-74	SITC of Manual Pull Station - Single Action Red in Color - Approval: UL Listed.	Ea.	5,519.00	552.00	6071.00
7-11-75	SITC of Manual Pull Station - Dual Action Red in Color Approval: UL Listed.	Ea.	5,889.00	589.00	6478.00
7-11-76	Supply of Back box for Manual pull station.	Ea.	257.00	26.00	283.00
7-11-77	SITC of Optical Photo / Smoke Detector with base. Approval: UL Listed.	Ea.	1,689.00	169.00	1858.00
7-11-78	SITC of Heat Combination (ROR and Fixed Temp) Detector with base - Approval UL Listed.	Ea.	1,414.00	141.00	1555.00
7-11-79	SITC of Multi Sensor (Smoke and Heat combination) Detector with base - Approval: UL Listed.	Ea.	2,091.00	209.00	2300.00
7-11-80	SITC of Optical Smoke Detector with base - - Approval - CE Mark.	Ea.	1,545.00	155.00	1700.00
7-11-81	SITC of Optical Smoke Detector with base - 4 wire connection with NC - relay output Make: Ravel	Ea.	1,932.00	193.00	2125.00
7-11-82	SITC of CO Detector with base - 4 wire connection	Ea.	5,582.00	558.00	6140.00
7-11-83	SITC of LPG Detector with base - 4 wire connection	Ea.	5,068.00	507.00	5575.00
7-11-84	SITC of CNG/Methane Detector with base - 4 wire connection	Ea.	5,068.00	507.00	5575.00
7-11-85	SITC of Beam Detector with (1 No) Reflector - 50 mtrs Range. Approval-LPCB	Ea.	52,364.00	5,236.00	57600.00
7-11-86	SITC of Beam Detector with (2 No's) Reflector - 100 mtrs Range Approval-LPCB	Ea.	54,877.00	5,488.00	60365.00
7-11-87	SITC of Duct Detector with 0.6 Mtr Unique sampling Tube	Ea.	17,700.00	1,770.00	19470.00
7-11-88	SITC of Beam Detector, 120Mtrs., Model: Eazy Beam Approval-UL LISTED	Ea.	72,087.00	7,209.00	79296.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-11-89	SITC of Beam Detector, 50Mtrs., Model: Easy Beam Approval-UL LISTED	Ea.	63,977.00	6,398.00	70375.00
Public Address System					
	conference system		-		
	Make: BOSCH / BOSE / TOA / EV or equivalent approved by authority		-		
7-12-1	SITC of Delegate Unit shall enable delegates to speak and listen to the proceedings via a loudspeaker or headphones. The unit shall include a microphone with a red indicator ring, which shall illuminate when the microphone is on. The unit shall include a 'Possible To Speak' white LED indicator, which shall illuminate showing the delegate when it is possible to switch on the microphone. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. Two 3.5 mm stereo headphone sockets (wired for mono) shall allow two pairs of headphones to be connected, enabling two delegates to simultaneously use the unit. The headphone volume level shall be adjustable on the unit for maximum comfort. It shall also be possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings.	Ea.	71,122.00	7,112.00	78,234.00
7-12-2	SITC of Chairman Unit shall enable the user to function as chairman of a conference or meeting. It shall be similar in appearance to the Delegate Unit, and shall also include a 'chairman priority' button. When pressed, the priority button shall cause all currently active delegate microphones to be temporarily or permanently muted, allowing the chairman to take control of the meeting. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. An optional chime shall be selectable to precede chairman priority calls.	Ea.	87,856.00	8,786.00	96,642.00
7-12-3	SITC of Control Unit shall have features for managing the number of active microphones and determining the operating mode, without the need for a central operator, should be available. It shall be possible to control up to 150 delegate units and power up to 50 delegate units. It shall be possible to connect external equipment to extend the system capabilities. There shall be a built-in loudspeaker and headphone connector to allow the conference to be monitored by, for example, a stenographer.	Ea.	2,13,365.00	21,337.00	2,34,702.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-4	SITC of Control Unit Plug-and-play functionality for quick and easy, connection of up to 80 Discussion Devices, Intuitive web browser interface control for advanced, configuration and control, On-board support for automatic HD camera control	Ea.	2,85,659.00	28,566.00	3,14,225.00
7-12-5	SITC of CONTROL UNIT RECORDER DAFS Plug-and-play functionality for quick and easy connection of up to 80 Discussion Devices Intuitive web browser interface control for advanced configuration and control Built in MP3 recorder with internal memory and USB recording Built in Digital Acoustic Feedback Suppression (DAFS) for ensuring superior speech intelligibility On-board support for automatic HD camera control	Ea.	4,14,180.00	41,418.00	4,55,598.00
7-12-6	SITC of EXTENSION UNIT Expands the CCS 1000 D Digital Discussion System up to 245 Discussion Devices Easily connected to system by use of 6-pole circular connectors Built in splitter allows for installation at any convenient point in system, including loop through for cascading extension units One trunk and two tap off connections with short circuit protection Freestanding or 19" rack mounted; housing similar to control unit	Ea.	2,76,120.00	27,612.00	3,03,732.00
7-12-7	SITC of DISCUSSION DEVICE LONG Unique patent pending possible-to-speak indicator Plug and play functionality for ensuring fast installation and reconfiguration times Compact, attractive ergonomic design Easily configured as a participant device or chairperson device Immunity to mobile phone interference	Ea.	92,040.00	9,204.00	1,01,244.00
7-12-8	SITC of CENTRAL CONTROL UNIT For DCN Next Generation or DCN wireless systems, or a combination of the two In single CCU; maximum 245 wired contribution units, plus 245 wireless delegate units For multi CCU systems, with up to 30 CCU's and a total of 4000 contribution units Voice activated microphone mode for wired and wireless systems Ethernet connection for configuration and control computers	Ea.	10,10,348.00	1,01,035.00	11,11,383.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-9	SITC of DUAL DELEGATE INTERFACE Dual Delegate mode for two microphones and two voting and card panels Two microphone/line inputs Outputs to headphones or loudspeakers Range of mounting options Use for entrance/exit registration Shared microphone with dual microphone control	Ea.	1,31,785.00	13,178.00	1,44,963.00
7-12-10	SITC of FLUSH COUPLING	Ea.	20,709.00	2,071.00	22,780.00
7-12-11	SITC of FLUSH END CAP	Ea.	43,928.00	4,393.00	48,321.00
7-12-12	SITC of FLUSH LOUDSPEAKER PANEL	Ea.	16,735.00	1,673.00	18,408.00
7-12-13	SITC of FLUSH MICROPHONE CONNECTION PANEL	Ea.	10,668.00	1,067.00	11,735.00
7-12-14	SITC of FLUSH MICROPHONE CONTROL PANEL	Ea.	12,132.00	1,213.00	13,345.00
7-12-15	SITC of FLUSH PRIORITY PANEL	Ea.	48,112.00	4,811.00	52,923.00
7-12-16	SITC of PLUGGABLE LONG MICROPHONE Built-in pop and windshield Uni-directional microphone on adjustable stem	Ea.	35,979.00	3,598.00	39,577.00
7-12-17	SITC of Cable terminated at both ends with a molded six-pole circular connector (male and female) . The extension to the type number gives the length of the cable. Prefabricated to reduce installation time Different lengths available Low smoke zero halogen to comply with safety and environmental standards	Ea.	96,224.00	9,622.00	1,05,846.00
7-12-18	SITC of Prefabricated to reduce installation time Low smoke zero halogen to comply with safety and environmental standards 10 Meter	Ea.	20,709.00	2,071.00	22,780.00
7-12-19	SITC of DCN CONNECTORS	Ea.	62,755.00	6,275.00	69,030.00
7-12-20	SITC of Main module software license Meeting & Agenda User management Client server solution Optimized for Microsoft Windows 8.1 and 10 Off line configuration Multi PC Supports DCN Next Generation or DCN Wireless Discussion System On screen help facility	Ea.	7,21,677.00	72,168.00	7,93,845.00
7-12-21	SITC of Microphone management license Prepare request to-speak lists Group and individual speech timers Notebook	Ea.	2,69,845.00	26,984.00	2,96,829.00
7-12-22	SITC of System server software license Automatic device discovery Controls up to 750 DICENTIS devices for participants Client server solution No user interaction needed to run the system DanteTM inputs and outputs for floor audio	Ea.	4,12,088.00	41,209.00	4,53,297.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-23	SITC of Wireless access point Stand alone usage; no central control unit needed Based on standard WiFi according IEEE 802.11n WPA2 encryption for secure communication Seamless frequency switching in the 2.4 GHz and 5 GHz band Controls up to 120 DiCENTIS devices for participants	Ea.	9,49,685.00	94,969.00	10,44,654.00
7-12-24	SITC of Wireless discussion device Removable Battery Pack, easy to change and charge Configurable as a participant, dual-use or chairperson Wireless Device by use of web browser interface Functionality can be expanded with software modules without the need for hardware modification	Ea.	2,69,845.00	26,984.00	2,96,829.00
7-12-25	SITC of Wireless discussion with touchscreen 4.3 inch capacitive touch screen and built in NFC reader for fast recognition of participants Option to display personalized custom logo on the touch screen Removable Battery Pack, easy to change and charge Configurable as a participant, dual-use or chairperson Wireless Device Extended by use of web browser interface Functionality can be expanded with software modules without the need for hardware modification	Ea.	3,59,793.00	35,979.00	3,95,772.00
7-12-26	SITC of Battery pack 24 hours typical use from a full charge Fully recharges in less then 3 hours Lithium ion technology Built in microprocessor controls charging cycle Long service life without charge degradation	Ea	89,948.00	8,995.00	98,943.00
7-12-27	SITC of Charger for 5x battery packs Simultaneous charging of up to 5 Battery Packs Individual Battery Pack charging capacity indicators Recharges from empty in less then 3 hours Auto ranging power supply, 100-240 Vac Loop through mains power supply connectors	Ea	3,22,140.00	32,214.00	3,54,354.00
7-12-28	SITC of High directive microphone Discrete microphone for user convenience High directive response Low susceptible for mobile phones Ultra low noise Freedom of movement	Ea	71,122.00	7,112.00	78,234.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-29	SITC of Microphone with long stem Uni-directional microphone on adjustable stem Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright	Ea.	52,295.00	5,230.00	57,525.00
7-12-30	SITC of Microphone with short stem Uni-directional microphone on adjustable stem Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright	Ea.	48,112.00	4,811.00	52,923.00
7-12-31	SITC of Controller Public address and emergency sound system control unit Control and routing of 4 simultaneous audio channels One controller supports 12 zones, expandable up-to 492 zones with 24-zone routers Four controllers can be networked using OMNEO interface module EN 54-16 and ISO 7240-16 system certification	Ea.	5,13,171.00	51,317.00	5,64,488.00
7-12-32	SITC of Router Expansion of PAVIRO system by 24 zones Total 4000 W speaker load, max 500W per zone 20 GPI, 24 GPO and 2 control relays Up to 20 routers per controller EN 54-16 and ISO 7240-16 system certification	Ea.	4,39,406.00	43,941.00	4,83,347.00
7-12-33	SITC of Power amplifier, 2x500W 2 X 500 W class-D power amplifier (70/100 V output) Low power consumption in standby mode Excellent sound quality, high signal-to-noise ratio EN 54-16 and ISO 7240-16 system certification	Ea.	5,06,703.00	50,670.00	5,57,373.00
7-12-34	SITC of Interface module Gigabit Ethernet Interface - 1000 Mbit/s full-duplex Ethernet Interface; IEEE 802.3u compatible Secondary Gigabit Ethernet Interface - Second Ethernet Interface for the connection of a redundant network to establish fault-tolerant systems Status LEDs - Link, Activity and Gigabit active status indication for each Ethernet interface EN 54-16 and ISO 7240-16 system certification	Ea.	2,41,492.00	24,149.00	2,65,641.00
7-12-35	SITC of Call station Call station with soft touch button for PAVIRO system 15 freely programmable buttons Customization via built-in display and keys Provision for installing emergency button and key switch EN 54-16 and ISO 7240-16 system certification	Ea.	1,81,119.00	18,112.00	1,99,231.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-36	SITC of Call station extension Call station extension Keypad with 20 freely programmable buttons Soft-touch selection buttons Up to 5 extension keypads can be connected to one call station EN 54-16 and ISO 7240-16 system certification	Ea.	1,09,965.00	10,996.00	1,20,961.00
7-12-37	SITC of Ceiling loudspeaker, 6W, ABS with clamps Suitable for speech and music reproduction Increased sensitivity Flush-mounting in ceiling cavity Easy to install Protective dust cover Optional certified fire dome Simple power setting Matching surface mounting box Comply with international safety regulations	Ea.	5,822.00	582.00	6,404.00
7-12-38	SITC of Metal fire dome	Ea.	3,665.00	367.00	4,032.00
7-12-39	SITC of Ceiling loudspeaker, 6W, ABS, 2" Suitable for speech and music reproduction Extreme compact size Suitable for use in humidity-, chlorine- and salty environments Selectable 70 V, 100 V and 8 Ohm input EN 54 24 certified	Ea.	5,358.00	536.00	5,894.00
7-12-40	SITC of Back box for LC5 speaker protects the rear of the loudspeaker from dust and dripping water makes the unit vermin proof prevents sound traveling via the ceiling cavity to adjacent areas	Ea.	839.00	84.00	923.00
7-12-41	SITC of Ceiling loudspeaker 6W metal clamp mount Suitable for speech and music reproduction Easy to install Optional certified fire dome EN 54 24 certified	Ea.	6,704.00	670.00	7,374.00
7-12-42	SITC of Ceiling loudspeaker, 6W, screw mount Suitable for speech and music reproduction Screw mounting Simple power setting EN 54 24 certified	Ea.	6,704.00	670.00	7,374.00
7-12-43	SITC of Ceiling loudspeaker, 24W, 8" Excellent speech and music reproduction High sound pressure level Ideal for high-ceiling applications Flush mounted in ceilings Clamp mounting Simple power setting Unobtrusive white metal grille Ball-proof Complies with international installation and safety regulations BS 5839 8 and EN 60849 compliant	Ea.	11,427.00	1,143.00	12,570.00
7-12-44	SITC of Metal fire dome	Ea.	2,587.00	259.00	2,846.00
7-12-45	SITC of Metal fire dome	Ea.	2,587.00	259.00	2,846.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-46	SITC of Cabinet loudspeaker, metal, rectangular Suitable for speech and music reproduction Robust metal enclosure Surface and/or recessed mounting Provision for internal mounting of the optional line/loudspeaker supervision boards EN 54-24 certified BS 5839 8 and EN 60849 compliant	Ea.	15,740.00	1,574.00	17,314.00
7-12-47	SITC of ABS cabinet loudspeaker 6 W Suitable for speech and music reproduction Compact size Knock-out ports for conduit - or cable entries EN 54-24 certified	Ea.	10,996.00	1,100.00	12,096.00
7-12-48	SITC of Horn loudspeaker, 25W High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line/loudspeaker supervision board Water and dust protected to IP 65 EN 54 24 certified BS 5839 8 and EN 60849 compliant	Ea.	17,249.00	1,725.00	18,974.00
7-12-49	SITC of Horn loudspeaker, 35W High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line/loudspeaker supervision board Water and dust protected to IP 65 EN 54 24 certified BS 5839 8 and EN 60849 compliant	Ea.	20,915.00	2,091.00	23,006.00
7-12-50	SITC of Horn loudspeaker, 10W, 7x8" High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line / loudspeaker supervision board Water and dust protected to IP 65 EN 54 24 certified	Ea.	20,915.00	2,091.00	23,006.00
7-12-51	SITC of WALL MOUNTING HANDSET STATION	Ea.	38,811.00	3,881.00	42,692.00
7-12-52	SITC of WALL MOUNTING PILFERPROOF STATION	Ea.	40,967.00	4,097.00	45,064.00
7-12-53	SITC of WALL MOUNTING EXTENTION AMPLIFIER	Ea.	20,775.00	2,078.00	22,853.00
7-12-54	SITC of DESK TOP HANDSET STATION	Ea.	20,053.00	2,005.00	22,058.00
7-12-55	SITC of Gooseneck microphone Unidirectional condenser microphone Flexible stem Phantom powered by amplifier On/off sliding switch with priority contact Supplied with fixed 2 m (76 in) cable and lockable DIN connector	Ea.	23,113.00	2,311.00	25,424.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-56	SITC of Dynamic microphone, 6.3mm jack Unidirectional dynamic microphone Handheld or stand-mounted use with clip (supplied) Rugged construction Modern non-reflective dark Grey finish	Ea.	5,606.00	561.00	6,167.00
7-12-57	SITC of Dynamic microphone, XLR Unidirectional dynamic microphone Handheld or stand-mounted use with clip (supplied) Rugged construction Modern non-reflective dark Grey finish	Ea.	5,175.00	517.00	5,692.00
7-12-58	SITC of Call station, all-call PTT-key for calls for activation Momentary or toggle Green LED, indicating microphone active Stable metal base design with fixed 2 m cable and lockable Euro style connector Phantom powered by amplifier	Ea.	21,562.00	2,156.00	23,718.00
7-12-59	SITC of Call station, 2-zone Modern two-zone call station for the PLE series Selectable gain Speech filter and limiter Output level control Loop-through option for up to 8 call stations LED indications for zone selection, busy, and power on	Ea.	40,967.00	4,097.00	45,064.00
7-12-60	SITC of Music source, USB/SD/Tuner MP3 playback from SD card and USB inputs FM tuner with RDS, presets and digital control Simultaneous operation of SD/USB-player and FM tuner Separate outputs for digital source and FM tuner	Ea.	97,028.00	9,703.00	1,06,731.00
7-12-61	SITC of Mixer amplifier, 60W	Ea.	28,676.00	2,868.00	31,544.00
7-12-62	SITC of Mixer amplifier, 120W	Ea.	33,636.00	3,364.00	37,000.00
7-12-63	SITC of Mixer amplifier, 240W	Ea.	42,692.00	4,269.00	46,961.00
7-12-64	SITC of PLENA 90W ALL-IN-ONE AMPLIFIER	Ea.	40,105.00	4,010.00	44,115.00
7-12-65	SITC of PLENA 180W ALL-IN-ONE AMPLIFIER	Ea.	56,923.00	5,692.00	62,615.00
7-12-66	SITC of PLENA 360W ALL-IN-ONE AMPLIFIER	Ea.	1,42,955.00	14,295.00	1,57,250.00
7-12-67	SITC of Power amplifier, 120W	Ea.	26,736.00	2,674.00	29,410.00
7-12-68	SITC of Power amplifier, 240W	Ea.	36,870.00	3,687.00	40,557.00
7-12-69	SITC of Power amplifier, 480W	Ea.	68,998.00	6,900.00	75,898.00
7-12-70	SITC of Call station for 6-zone Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier Unidirectional condenser microphone on flexible stem Six zone selection keys, all-call key, and momentary PTT-key for calls Selectable gain, speech filter, and limiter for improved intelligibility Selectable priority levels and different pre and post-call chimes LED indications for zone selection, system activity, and call station status	Ea.	88,403.00	8,840.00	97,243.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-71	SITC of Call station for 6-zone Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier Unidirectional condenser microphone on flexible stem Six zone selection keys, all-call key, and momentary PTT-key for calls Selectable gain, speech filter, and limiter for improved intelligibility Selectable priority levels and different pre and post-call chimes LED indications for zone selection, system activity, and call station status	Ea.	43,124.00	4,312.00	47,436.00
7-12-72	SITC of Table-top microphone Stylish tabletop unidirectional condenser microphone on a flexible stem Phantom powered by amplifier Momentary or toggle PTT-key for calls with priority contact Green LED, indicating microphone active Stable metal base design with fixed 2 m cable and lockable DIN connector Separate DIN to XLR adapter	Ea.	15,094.00	1,509.00	16,603.00
7-12-73	SITC of Message manager Highly flexible stand alone digital message player Up to 12 messages and 12 trigger inputs Downloads messages from a PC in WAV format Compliant with standards for emergency sound systems Zone control for Plena system preamplifier LBB 1925/10 Front panel control and remote control	Ea.	1,25,058.00	12,506.00	1,37,564.00
7-12-74	SITC of Weekly timer Two weekly programs 14 Chimes Six contact outputs Automatic daylight/standard time BGM level control Hold and pause function Programming on the unit and via the supplied PC program Ideal partner complement to the Plena Message Manager and Voice Alarm Controller for timed messages	Ea.	2,47,961.00	24,796.00	2,72,757.00
7-12-75	SITC of Controller Heart of the Plena Voice Alarm System EN 54 16 certified Built-in message manager and 240 W amplifier Six zone outputs 6 emergency and 6 business triggers	Ea.	3,53,164.00	35,316.00	3,88,480.00
7-12-76	SITC of Router Expand the Plena Voice Alarm System with six zones EN 54 16 certified 12 additional input contacts Six volume override output contacts Supervision within the Plena Voice Alarm System	Ea.	2,00,525.00	20,052.00	2,20,577.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-77	SITC of Call station, 6-zone Stylish six zone call station for the Plena Voice Alarm System Six zone selection keys, all-call key and momentary PTT-key for calls Selectable gain, speech filter, limiter, and output level for improved intelligibility LED indications for zone selection, fault, and emergency state Call station extension provides seven additional zone and zone group keys	Ea.	60,373.00	6,037.00	66,410.00
7-12-78	SITC of Call station keypad Seven zone selection keys LED indications for zone selection Up to eight keypads can be connected together	Ea.	49,592.00	4,959.00	54,551.00
7-12-79	SITC of Ceiling loudspeaker 6W, metal with clamp	Ea.	1,657.00	166.00	1,823.00
7-12-80	SITC of Ceiling loudspeaker 4W, ABS with clamps	Ea.	1,335.00	134.00	1,469.00
7-12-81	SITC of Ceiling loudspeaker 6W, ABS with clamps	Ea.	1,422.00	142.00	1,564.00
7-12-82	SITC of Plastic speaker dome	Ea.	991.00	99.00	1,090.00
7-12-83	SITC of Ceiling speaker, 6W, metal	Ea.	1,442.00	144.00	1,586.00
7-12-84	SITC of Ceiling loudspeaker 4W, splash proof	Ea.	1,377.00	138.00	1,515.00
7-12-85	SITC of Compact ceiling speaker, 6W, metal	Ea.	1,593.00	159.00	1,752.00
7-12-86	SITC of Ceiling loudspeaker 12W, metal	Ea.	2,478.00	248.00	2,726.00
7-12-87	SITC of Ceiling loudspeaker 20W, metal	Ea.	3,990.00	399.00	4,389.00
7-12-88	SITC of Premium-sound ceiling loudspeaker, 15W	Ea.	3,340.00	334.00	3,674.00
7-12-89	SITC of Premium-sound ceiling loudspeaker, 20W	Ea.	5,175.00	517.00	5,692.00
7-12-90	SITC of Premium-sound ceiling loudspeaker, 30W	Ea.	7,977.00	798.00	8,775.00
7-12-91	SITC of ABS back box	Ea.	559.00	56.00	615.00
7-12-92	SITC of Metal fire dome	Ea.	904.00	90.00	994.00
7-12-93	SITC of Ceiling loudspeaker, 6W Suitable for speech and music reproduction Light weight ABS material Easy to install Optional back-box Unobtrusive design	Ea.	2,909.00	291.00	3,200.00
7-12-94	SITC of Back box for LC3 speaker Easy to install Water- and dust protected Prevents sound traveling via the ceiling cavity to adjacent areas	Ea.	927.00	93.00	1,020.00
7-12-95	SITC of Metal fire dome, white	Ea.	2,371.00	237.00	2,608.00
7-12-96	SITC of Cabinet loudspeaker 6W, black	Ea.	2,371.00	237.00	2,608.00
7-12-97	SITC of Cabinet loudspeaker 6W, white	Ea.	2,371.00	237.00	2,608.00
7-12-98	SITC of Cabinet loudspeaker 12W, black	Ea.	3,450.00	345.00	3,795.00
7-12-99	SITC of Cabinet loudspeaker 12W, white	Ea.	3,450.00	345.00	3,795.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-100	SITC of Column loudspeaker 24W, black	Ea.	6,468.00	647.00	7,115.00
7-12-101	SITC of Cabinet loudspeaker 6W, corner, black	Ea.	2,262.00	226.00	2,488.00
7-12-102	SITC of Cabinet loudspeaker 12W (bi-dir), black	Ea.	3,233.00	323.00	3,556.00
7-12-103	SITC of Cabinet loudspeaker, 15W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations	Ea.	15,094.00	1,509.00	16,603.00
7-12-104	SITC of Cabinet loudspeaker, 30W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations	Ea.	21,562.00	2,156.00	23,718.00
7-12-105	SITC of Column loudspeaker 30W, metal, black	Ea.	19,405.00	1,941.00	21,346.00
7-12-106	SITC of Column loudspeaker 40W, metal, black	Ea.	23,071.00	2,307.00	25,378.00
7-12-107	SITC of Column loudspeaker 60W, metal, black	Ea.	25,444.00	2,544.00	27,988.00
7-12-108	SITC of Sound projector 6W	Ea.	2,694.00	269.00	2,963.00
7-12-109	SITC of Sound projector 12W, bi-directional	Ea.	3,665.00	367.00	4,032.00
7-12-110	SITC of Sound projector loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 2 m fixed connection cable IP63 water- and dust-protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations	Ea.	11,427.00	1,143.00	12,570.00
7-12-111	SITC of Pendant sphere loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 5 m fixed connection cable Water and dust protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations	Ea.	14,015.00	1,401.00	15,416.00
7-12-112	SITC of Horn loudspeaker 15W, circular, ABS	Ea.	4,959.00	496.00	5,455.00
7-12-113	SITC of Horn loudspeaker 15W, Elliptical, ABS	Ea.	5,391.00	539.00	5,930.00
7-12-114	SITC of Horn loudspeaker 30W, circular, ABS	Ea.	6,468.00	647.00	7,115.00
7-12-115	SITC of Horn loudspeaker 30W, Elliptical, ABS	Ea.	6,900.00	690.00	7,590.00
7-12-116	SITC of Horn loudspeaker, 15W High efficiency driver Excellent speech reproduction Versatile mounting bracket Water and dust protected to IP 65 Complies with international installation and safety regulations	Ea.	8,625.00	862.00	9,487.00

Item No	Description
7-12-117	SITC of Cabinet loudspeaker, 15W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations
7-12-118	SITC of Cabinet loudspeaker, 30W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations
7-12-119	SITC of Column loudspeaker 30W, metal, black
7-12-120	SITC of Column loudspeaker 40W, metal, black
7-12-121	SITC of Column loudspeaker 60W, metal, black
7-12-122	SITC of Sound projector 6W
7-12-123	SITC of Sound projector 12W, bi-directional
7-12-124	SITC of Sound projector loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 2 m fixed connection cable IP63 water- and dust-protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations
7-12-125	SITC of Pendant sphere loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 5 m fixed connection cable Water and dust protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations
7-12-126	SITC of Horn loudspeaker 15W, circular, ABS
7-12-127	SITC of Horn loudspeaker 15W, Elliptical, ABS
7-12-128	SITC of Horn loudspeaker 30W, circular, ABS
7-12-129	SITC of Horn loudspeaker 30W, Elliptical, ABS

Total
 15.00
 88.00
 556.00
 16,603.00
 23,718.00
 21,346.00
 27,988.00
 27,988.00
 4,032.00
 15,416.00
 5,930.00
 5,930.00
 7,590.00
 9,487.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-117	SITC of Horn loudspeaker, 20W High efficiency drivers Wide opening angle Excellent speech reproduction Simple power setting Water- and dust protected to IP 65 Versatile mounting bracket Complies with international installation and safety regulations	Ea.	19,836.00	1,984.00	21,820.00
7-12-118	SITC of Horn loudspeaker, 30W High efficiency drivers Wide opening angle Excellent speech reproduction Simple power setting Water- and dust protected to IP 65 Versatile mounting bracket Complies with international installation and safety regulations	Ea.	20,915.00	2,091.00	23,006.00
7-12-119	SITC of Volume control, 12W (BS) Volume control 12 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations	Ea.	4,744.00	474.00	5,218.00
7-12-120	SITC of Volume control unit, 12W	Ea.	4,744.00	474.00	5,218.00
7-12-121	SITC of Volume control unit, 36W	Ea.	1,941.00	194.00	2,135.00
7-12-122	SITC of Volume control, 36W (BS) Volume control 36 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations	Ea.	5,391.00	539.00	5,930.00
7-12-123	SITC of Volume Control 36 W (portrait) 12 W and 36 W versions Available in Portrait – and Landscape design Suitable for 3-wire and 4-wire override systems Built-in 24 VDC override relay Robust design	Ea.	5,391.00	539.00	5,930.00
7-12-124	SITC of Volume control, 100W Volume control 100 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations	Ea.	11,644.00	1,164.00	12,808.00
7-12-125	SITC of Control unit	Ea.	51,745.00	5,175.00	56,920.00
7-12-126	SITC of Control unit with recorder and amplifier	Ea.	94,873.00	9,487.00	1,04,360.00
7-12-127	SITC of Participant device long mic, black	Ea.	20,484.00	2,048.00	22,532.00
7-12-128	SITC of Chairperson device long mic, black	Ea.	22,856.00	2,286.00	25,142.00
7-12-129	SITC of EXTENSION CABLE ASSEMBLY - 2MTRS	Ea.	2,155.00	216.00	2,371.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-130	SITC of EXTENSION CABLE ASSEMBLY - 5 MTRS	Ea.	3,018.00	302.00	3,320.00
7-12-131	SITC of EXTENSION CABLE ASSEMBLY - 10 MTRS	Ea.	3,882.00	388.00	4,270.00
7-12-132	SITC of IP based Digital Public Address and Emergency Sound System Controller certified to international standards of Emergency Sound System EN 54-16 and ISO 7240-16, marked for CE and compliant with the RoHS directive. The system shall be fully IP-network based and all system devices shall communicate via IP, using an Audio over IP (AoIP) protocol that supports standards AES67 for audio and using AES70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data. It shall be capable of receiving Dante and AES67 audio streams. The audio part shall support Layer 3 connections via routers between subnets with latency of less than 10ms and synchronized outputs. The control data part shall be guaranteed by Transmission Control Protocol (TCP) Layer 4. The system shall support >100 simultaneous channels for music routing and making calls. A system based on a single system controller shall support at least 120 system devices and 500 zones. The system controller shall dynamically assign network audio channels for audio routing between system devices across multiple subnets. The system controller shall have dual power supply inputs and power supplies. It shall keep an internal log of fault events and call events. The system controller shall provide a secure TCP/IP open interface for remote control and diagnostics. The system controller shall provide front-panel LED indications for the status of power supplies and the presence of faults in the system upto 2000 faults and provide additional software monitoring and fault reporting features.	Ea.	27,69,355.00	2,76,935.00	30,46,290.00
7-12-133	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.	Ea.	8,56,018.00	85,602.00	9,41,620.00
7-12-134	SITC of Wall mount housing with fixed hand-held microphone and helix cable with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.	Ea.	8,56,018.00	85,602.00	9,41,620.00

Item No	Description
7-12-135	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.
7-12-136	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.
7-12-137	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.
7-12-138	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.
7-12-139	SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone, 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data.

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-12-135	SITC of IP based Digital Class-D multi channel Amplifier 500W each with 8 channels. The amplifier shall adapt the maximum output power of each amplifier channel to its connected loudspeaker load, with free assignable output power per channel. EN 54 certified and ISO 7240-16, marked for CE and compliant with the RoHS directive. The amplifier shall have a built-in independent spare amplifier channel for automatic fail over. The amplifier shall provide an interface for control data and multi-channel digital audio over IP using dual Ethernet ports for redundant network connection, supporting RSTP and loop-through cabling, with automatic fail over to an analog lifeline input. The amplifier shall have dual power supply inputs and power supplies. All amplifier channels shall have independent A/B zone outputs with support for class-A loudspeaker loops. All amplifier channels shall supervise the integrity of connected loudspeaker lines without interruption of audio distribution. The amplifier shall provide front-panel LED status indications for the network link, ground fault, power supplies and audio channels, and provide additional software monitoring and fault reporting features. Audio-over-IP, using the high-quality digital audio interface, compatible with AES67 and AES 70 standards with optional encryption and authentication to prevent unauthorized access, misuse and modification of data using an uncompressed, high-definition digital audio format with 24-bit sample size and 48 kHz sample rate. Digital signal processing on all amplifier channels, including equalization, limiting and delay, to optimize and tailor the sound in each loudspeaker zone.	Ea.	26,18,282.00	2,61,828.00	28,80,110.00
7-12-136	SITC of The IP-networked multi function power supply shall contain four independent mains power supplies with power factor correction and dual output connection facilities to power up to three 500 W amplifiers and to power a system controller and two call stations. The multi-function power supply shall have an integrated battery charger for a connected battery, and independent converters to use the battery as a backup power source for all connected loads in case of mains failures. Fail over to the backup battery shall be without interruption of output power. It shall use a single 12 V VRLA backup battery to eliminate the need for battery balancing, while maximizing battery lifetime and power density. The multi function power supply shall have eight general purpose control inputs with connection supervision and eight voltage free control outputs. The multi function power supply shall provide an interface for control data and to receive a backup audio channel over Audio over IP using an integrated 6-port Ethernet switch for redundant network connections, supporting RSTP and loop-through cabling. Two ports shall have PoE to provide redundant power to a call station. The backup audio channel shall be available as analog lifeline to connected amplifiers. The multi function power supply shall provide front-panel LED indications for status of the power supply sections, mains and battery, network link and fault presence, and provide additional software monitoring and fault reporting features. The multi function power supply shall be certified for EN 54-4 and ISO 7240-4, marked for CE and be compliant with the RoHS directive.	Ea.	21,65,145.00	2,16,515.00	23,81,660.00
7-12-137	SITC of External Power supply module for Amplifiers (48V DC)	Ea.	1,00,736.00	10,074.00	1,10,810.00
7-12-138	SITC of External Power supply module for Controller (24V DC)	Ea.	1,00,736.00	10,074.00	1,10,810.00
7-12-139	SITC of Compact device for loudspeaker end of line supervision. The end-of-line device shall only require a connection with the end of the loudspeaker line to supervise its integrity. Supervision reliability shall not depend on the number of connected loudspeakers. Supervision shall be inaudible and not interrupt audio content. The end-of-line device shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive.	Ea.	2,01,364.00	20,136.00	2,21,500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
Professional Audio					
	Make: d&b Audio/ Electro-voice / Dynacord/ Beyerdynamic /Audio Technical or equivalent				
7-13-1	Supply , installation , testing and commissioning of 6" two way Compact Ceiling speaker :Frequency range (-10dB) of 70 Hz - 20 kHz .Power handling of 45 Watt with Power taps at : -30-15-7.5 W V with opening angles (-6 dB)2 K : 173°;with Screw terminal connector(ABS)	Ea.	7,182.00	718.00	7,900.00
7-13-2	Supply , installation , testing and commissioning of 4" two way Compact Indoor type wall mount Music Loudspeaker :Frequency range (-10dB) of 75Hz to 20kHz Power handling of 40 Watt Continuous ,160 Watt peak; Nominal dispersion of 110 H X 110 V; with Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better,The system shall be weather resistant to IEC 60068 2 5 Solar Radiation, IEC 60068 2-11 Salt Mist,IEC 60068-2-42 SO2, IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic. (Pair)	Ea.	44,091.00	4,409.00	48,500.00
7-13-3	Supply , installation , testing and commissioning of 4" two way Compact Indoor type wall mount Music Loudspeaker :Frequency range (-10dB) of 75Hz to 20kHz Power handling of 60 Watt peak; Nominal dispersion of 110 H X 110 V; Transformer with tap settings of 7.5/15W @ 100V, with Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better,The system shall be weather resistant to IEC 60068-2-5 Solar Radiation, IEC 60068-2-11 Salt Mist,IEC 60068-2-42 SO2, IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic.Approved Make: Martin Audio/Meyer Sound/Electro Voice (Pair)	Ea.	47,364.00	4,736.00	52,100.00
7-13-4	Supply , installation , testing and commissioning of 5" two way Compact Indoor type wall mount Music Loudspeaker :Frequency range (-10dB) of 60 Hz - 20 kHz Power handling of 75W Continuous, 300 Watt peak; Nominal dispersion of 90 H X 90 V; Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better,The system shall be weather resistant to IEC 60068-2-5 Solar Radiation, IEC 60068-2-11 Salt Mist,IEC 60068-2-42 SO2, IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic. (Pair)	Ea.	57,091.00	5,709.00	62,800.00



7-13-5

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7-13-8



Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-5	Supply, installation, testing and commissioning of 5" two way Compact Indoor type wall mount Music Loudspeaker : Frequency range (-10dB) of 60 Hz - 20 kHz Power handling of 75W Continuous , 300 Watt peak; Nominal dispersion of 90 H X 90 V; Transformer with tap settings @100V - 7.5 W, 15 W, 30 W, or 8 Ω. Nominal dispersion of 90 H X 90 V; Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better. The system shall be weather resistant to IEC 60068-2-5 Solar Radiation, IEC 60068-2-11 Salt Mist, IEC 60068-2-42 SO ₂ , IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic. (Pair)	Ea.	63,636.00	6,364.00	70,000.00
7-13-6	Supply, installation, testing and commissioning of Weatherproof Flyable 5" , high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 90 Hz - 20 kHz, sensitivity (1W/1m) 89 dB SPL or more, delivering Max SPL of 114 dB or more with power handling pk 300W or more. The speaker should have a the following wattage taps: 100V - 60 W, 30 W, 15 W, 8 Ω bypass. The speaker cabinet should have a horizontal x vertical coverage angle of 90 x 90 degree. (Pair)	Ea.	91,909.00	9,191.00	1,01,100.00
7-13-7	Supply, installation, testing and commissioning of 8" two way Compact Indoor type wall mount Music Loudspeaker : Frequency range (-10dB) of 50Hz - 20 kHz Power handling of 90W Continuous , 360 Watt peak; Nominal dispersion of 90 H X 90 V; Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better. The system shall be weather resistant to IEC 60068-2-5 Solar Radiation, IEC 60068-2-11 Salt Mist, IEC 60068-2-42 SO ₂ , IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic. (Pair)	Ea.	91,909.00	9,191.00	1,01,100.00
7-13-8	Supply, installation, testing and commissioning of 8" two way Compact Indoor type wall mount Music Loudspeaker : Frequency range (-10dB) of 50Hz - 20 kHz Power handling of 90W Continuous , 360 Watt peak; Nominal dispersion of 90 H X 90 V; Transformer with tap settings @100 V: 15 W, 30 W, 60 W, 8 Ω Powder-coated Zinc plated grille; Brackets with pitch/yaw adjustment included complete with standard accessories or Better. The system shall be weather resistant to IEC 60068-2-5 Solar Radiation, IEC 60068-2-11 Salt Mist, IEC 60068-2-42 SO ₂ , IEC 60068-2-60 Chlorine, and IEC 60529 IP54 test conditions. The enclosure shall be molded of fire rated ABS plastic. (Pair)	Ea.	1,02,909.00	10,291.00	1,13,200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-9	Supply , installation , testing and commissioning of 2x10" Cabinet Subwoofer . The Subwoofer must have frequency range (-10dB) of 33 Hz -500 kHz, sensitivity (1W/1m) 94 dB SPL, delivering Max SPL of 126 dB peak or more with power handling 400 W Continue 1600 W Peak Nominal impedance 8 Ω . The enclosure shall be IP-54 (per IEC-60529); IP-65 with port covers.	Ea.	1,25,000.00	12,500.00	1,37,500.00
7-13-10	Supply , installation , testing and commissioning of 12" Cabinet Subwoofer . The Subwoofer must have frequency range (-10dB) of 40 Hz -140 kHz, sensitivity (1W/1m) 104 dB SPL, delivering Max SPL of 133 dB peak or more with power handling 200 W Continue 800 W Peak Nominal impedance 8 Ω . The enclosure shall be MDF and constructed with both glue and steel fasteners.	Ea.	92,273.00	9,227.00	1,01,500.00
7-13-11	Supply , installation , testing and commissioning of Dual 4" 2-way surface-mount loudspeaker . The speaker cabinet must have frequency range (-10dB) of 65 Hz - 20 kHz, sensitivity (1W/1m) 89 dB SPL or more, delivering Max SPL of 113 dB with power handling 200W Continue 400W peak. The speaker shall be weather resistant to MIL Spec 810 and IEC 529 IP 34 test conditions. The speaker speaker should have a horizontal x vertical coverage angle of 120 x 80 degree. (Pair)	Ea.	79,818.00	7,982.00	87,800.00
7-13-12	Supply , installation , testing and commissioning of Dual 6" 2-way surface-mount loudspeaker . The speaker cabinet must have frequency range (-10dB) of 62 Hz - 20 kHz, sensitivity (1W/1m) 94 dB SPL or more, delivering Max SPL of 118 dB with power handling 300W Continue 600W peak. The speaker shall be weather resistant to MIL Spec 810 and IEC 529 IP 34 test conditions. The speaker speaker should have a horizontal x vertical coverage angle of 100 x 80 degree. (Pair)	Ea.	1,22,273.00	12,227.00	1,34,500.00
7-13-13	Supply , installation , testing and commissioning of Dual 4" 2-way surface-mount loudspeaker . The speaker cabinet must have frequency range (-10dB) of 65 Hz - 20 kHz, sensitivity (1W/1m) 89 dB SPL or more, delivering Max SPL of 113 dB with power handling 200W Continue 400W peak. Transformer with tap settings @100 V: 7.5W, 15W, 30W, 8 Ω bypass The speaker shall be weather resistant to MIL Spec 810 and IEC 529 IP 34 test conditions. The speaker speaker should have a horizontal x vertical coverage angle of 120 x 80 degree. (Pair)	Ea.	81,982.00	8,198.00	90,180.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-14	Supply, installation, testing and commissioning of Dual 6" 2-way surface-mount loudspeaker. The speaker cabinet must have frequency range (-10dB) of 62 Hz - 20 kHz, sensitivity (1W/1m) 94 dB SPL or more, delivering Max SPL of 118 dB with power handling 300W Continue 600W peak. Transformer with tap settings @100 V: 15 W, 30 W, 60 W, 8 Ω bypass. The speaker shall be weather resistant to MIL Spec 810 and IEC 529 IP 34 test conditions. The speaker should have a horizontal x vertical coverage angle of 100 x 80 degree. (Pair)	Ea	1,25,727.00	12,573.00	1,38,300.00
7-13-15	Supply, installation, testing and commissioning of 4" Two-way Flush mount loudspeaker. The speaker must have frequency range (-10dB) of 52 Hz - 20 kHz, sensitivity (1W/1m) 87 dB SPL, delivering Max SPL of 110 dB or more with power handling 50W Continue 200W Peak. The speaker should have a the following wattage taps: 100V - 3.75, 7.5, 15, or 30W & 8 Ω bypass. The speaker should have a conical coverage of 150 degree. The speaker Baffle should be UL 94V-O rated ABS with Zinc plated steel Backcan. (Pair)	Ea	72,955.00	7,295.00	80,250.00
7-13-16	Supply, installation, testing and commissioning of 6.5" Two-way Flush mount loudspeaker. The speaker must have frequency range (-10dB) of 52 Hz - 20 kHz, sensitivity (1W/1m) 90 dB SPL, delivering Max SPL of 115 dB or more with power handling 75W Continue 300W Peak. The speaker should have a the following wattage taps: 100V - 3.75, 7.5, 15, or 30W & 8 Ω bypass. The speaker should have a conical coverage of 150 degree. The speaker Baffle should be UL 94V-O rated ABS with Zinc plated steel Backcan. (Pair)	Ea	98,727.00	9,873.00	1,08,600.00
7-13-17	Supply, installation, testing and commissioning of 4" Two way coaxial ceiling loudspeaker. The speaker must have frequency range (-10dB) of 65 Hz - 20 kHz, sensitivity (1W/1m) 86 dB SPL, delivering Max SPL of 103 dB or more with power handling 50W Continue 200W Peak. The speaker should have a the following wattage taps: 100V - 7.5, 15, 30W & 60W or 8 Ω bypass. The speaker should have a conical coverage of 130 degree. The speaker shall be with UL 1480 & UL 2043 safety ratings, with Integrated 3-point toggle anchors mounting System. (Pair)	Ea	52,773.00	5,277.00	58,050.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-18	Supply, installation, testing and commissioning of 6.5" Two-way coaxial ceiling loudspeaker . The speaker must have frequency response of 50 Hz - 20 kHz, sensitivity (1W/1m) 90 dB SPL, with power handling 75 W with overload protection. The speaker should have a the following wattage taps: 100V -3.75, 7.5, 15, or 30W & 8 Ω bypass. The speaker should have a conical coverage of 120 degree. The speaker shall be with UL 1480 & CSA 22.2 205 certified, with Integrated 4-point toggle anchors mounting System. (Pair)	Ea.	89,545.00	8,955.00	98,500.00
7-13-19	Supply, installation, testing and commissioning of 8" Two-way coaxial ceiling loudspeaker . The speaker must have frequency range (-10dB) of 50 Hz - 20 kHz, sensitivity (1W/1m) 91 dB SPL, delivering Max SPL of 110 dB or more with power handling 75 W Continue 300W Peak. The speaker should have a the following wattage taps: 100V - 3.75, 7.5, 15, or 30W & 8 Ω bypass. The speaker should have a conical coverage of 110 degree. The speaker shall be with UL 1480 & UL 2043 safety ratings, with Integrated 3-point toggle anchors mounting System. (Pair)	Ea.	74,091.00	7,409.00	81,500.00
7-13-20	Supply, installation, testing and commissioning of 10" ceiling Subwoofer . The Subwoofer must have frequency range (-10dB) of 45 Hz - 150 kHz, sensitivity (1W/1m) 94 dB SPL, delivering Max SPL of 120 dB peak or more with power handling 100 W Continue 400 W Peak. The subwoofer should have a the following wattage taps: 100V -15, 30, 60W & 8 Ω bypass. The speaker should have a conical coverage of 180 degree. The enclosure shall be with Steel d UL94V-0 rated baffle and bezel with Perforated powder coated steel with safety tether. (Pair)	Ea.	97,636.00	9,764.00	1,07,400.00
7-13-21	Supply, installation, Testing and Commissioning of 24 x 24 audio matrix and system controller with 12 mic/line level inputs, 8 line level outputs , electronically symmetric, Frequency Response 20 Hz to 20 kHz (± 0.5 dB), Signal to Noise Ratio > 115 dB, THD+N < 0.002 %, Common Mode Rejection > 70 dB, Sampling rate 48 kHz / 96 kHz, Dante synchronized, Signal Delay / Latency Analog In to Analog Out, 48 kHz / 96 kHz < 0.45 ms / < 0.22 ms, Signal Processing 32/40 bit, floating point, Filter PEQ, Lo pass, Hi pass, Lo shelf, Hi shelf, X-Over, FIR, Dynamics Ducker, Compressor, Noise gate, Limiter Peak (PA) limiter, RMS / TEMP limiter, Pilot tone Generator, Detector with Notch, Generators Sine, Pink noise, White noise, Mixer/Router Router, Mixer, Matrix Mixer, VU Meter, Level, Polarity, Mute, Delay Network Audio Inputs 24 channels, 48 kHz / 96 kHz, Dante format, Network Audio Outputs 24 channels, 48 kHz / 96 kHz, Dante format.	Ea.	5,80,909.00	58,091.00	6,39,000.00
7-13-22	Supply of high-power, front-loaded bass array able element dual 15" Subwoofer with Freq. Range 40 Hz - 300 Hz Hz. It should have an axial Sensitivity 101 dB (1W/1m) delivering a Max. SPL 137 dB or better. All the work shall be done as per instruction given by EIC and as per Approved tender make list.	Ea.	5,32,545.00	53,255.00	5,85,800.00



Total	Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
18,500.00	7-13-23	SITC of a 12 inch woofer for low-end punch in a compact enclosure and 1.5 inch high-frequency titanium compression driver Speaker. The speaker cabinet must have frequency range of 55 Hz - 20 kHz, sensitivity (1W/1m) 95 dB SPL or more, delivering Max SPL of 125 dB or more with power handling 250W Continue 1000W Peak. Coverage angle of the speaker to be 90 deg X 60 Deg, Nominal impedance: 8 Ω integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor.	Ea.	72,582.00	7,258.00	79,840.00
1,500.00	7-13-24	SITC of a 15 inch woofer for extended low-frequency response and 1.5 inch high-frequency titanium compression driver Speaker. The speaker cabinet must have frequency range of 44 Hz - 20 kHz, sensitivity (1W/1m) 96 dB SPL or more, delivering Max SPL of 126 dB or more with power handling 250W Continue 1000W Peak. Coverage angle of the speaker to be 90 deg X 60 Deg, Nominal impedance: 8 Ω. integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor.	Ea.	96,364.00	9,636.00	1,06,000.00
400.00	7-13-25	SITC of a self powered 12" full range speaker with a built in 1000W RMS Class D amplifier. The backside of the speaker to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. Coverage angle of the speaker to be 90 deg X 60 Deg, integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor. Speaker to contain 2) XLR/TRS Combo Jack, (1) 3.5 mm Input, and (1) XLR link Output. Speaker to generate a max SPL of 125 dB Or Better	Ea.	1,07,273.00	10,727.00	1,18,000.00
100.00	7-13-26	SITC of a self powered 15" full range speaker with a built in 1000W RMS Class D amplifier. The backside of the speaker to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. Coverage angle of the speaker to be 90 deg X 60 Deg, integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor. Speaker to contain 2) XLR/TRS Combo Jack, (1) 3.5 mm Input, and (1) XLR link Output. Speaker to generate a max SPL of 127 dB	Ea.	1,31,000.00	13,100.00	1,44,100.00



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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-27	SITC of a EVS-10M woofer 10 inch woofer for low-end punch in a compact enclosure and 1.4 inch DH-1C (1 inch exit) high-frequency titanium compression driver Speaker. The speaker cabinet must have frequency range of 49 Hz - 22 kHz, sensitivity (1W/1m) 90 dB SPL or more, delivering Max SPL of 127 dB or more with power handling 300W Continue 1200W Peak. Coverage angle of the speaker to be 90 deg X 60 Deg. Nominal impedance: 8 Ω . Integrated top handle as well as pole mount facility. Must also have (3) M10 suspension points	Ea.	68,545.00	6,855.00	75,400.00
7-13-28	SITC of a EVS-12M woofer 12 inch woofer for low-end punch in a compact enclosure and 1.4 inch DH-1C (1 inch exit) high-frequency titanium compression driver Speaker. The speaker cabinet must have frequency range of 51 Hz - 20 kHz, sensitivity (1W/1m) 93 dB SPL or more, delivering Max SPL of 128 dB or more with power handling 300W Continue 1200W Peak. Coverage angle of the speaker to be 90 deg X 60 Deg. Nominal impedance: 8 Ω . Integrated top handle as well as pole mount facility. Must also have (3) M10 suspension points	Ea.	80,727.00	8,073.00	88,800.00
7-13-29	SITC of a EVS-15M woofer 15 inch woofer for low-end punch in a compact enclosure and 1.4 inch DH-1C (1 inch exit) high-frequency titanium compression driver Speaker. The speaker cabinet must have frequency range of 52 Hz - 19 kHz, sensitivity (1W/1m) 95 dB SPL or more, delivering Max SPL of 130 dB or more with power handling 300W Continue 1200W Peak. Coverage angle of the speaker to be 90 deg X 60 Deg. Nominal impedance: 8 Ω . Integrated top handle as well as pole mount facility. Must also have (3) M10 suspension points	Ea.	1,04,000.00	10,400.00	1,14,400.00
7-13-30	SITC of a EVS-12L woofer 12 inch woofer designed to exacting specifications for superior durability and exceptional low-frequency reproduction Subwoofer . The Subwoofer cabinet must have frequency range of 33 Hz - 300 kHz, sensitivity (1W/1m) 93 dB SPL or more, delivering Max SPL of 129 dB or more with power handling 400W Continue 1600W Peak. Nominal impedance: 8 Ω integrated side handle.	Ea.	1,15,618.00	11,562.00	1,27,180.00
7-13-31	SITC of a EVS-18L woofer 18 inch woofer designed to exacting specifications for superior durability and exceptional low-frequency reproduction Subwoofer . The Subwoofer cabinet must have frequency range of 28 Hz - 300 kHz, sensitivity (1W/1m) 94 dB SPL or more, delivering Max SPL of 133 dB or more with power handling 400W Continue 1600W Peak. Nominal impedance: 8 Ω integrated side handle.	Ea.	1,27,000.00	12,700.00	1,39,700.00



Total	Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
75,400.00	7-13-32	SITC of a self powered 10" full range speaker with a built in 1200W RMS Class D amplifier. The backside of the speaker to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. Coverage angle of the speaker to be 90 deg X 60 Deg, integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor & (3) M10 suspension points. Speaker to contain(1) Stereo RCA Input, (2)XLR/TRS combo jack, and (1)XLR. Speaker to generate a max SPL of 130 dB Or Better	Ea.	1,27,000.00	12,700.00	1,39,700.00
1,00,00.00	7-13-33	SITC of a self powered 12" full range speaker with a built in 1200W RMS Class D amplifier. The backside of the speaker to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. Coverage angle of the speaker to be 90 deg X 60 Deg, integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor. Speaker to contain(1) Stereo RCA Input, (2)XLR/TRS combo jack, and (1)XLR. Speaker to generate a max SPL of 130 dB Or Better	Ea.	1,38,636.00	13,864.00	1,52,500.00
1,400.00	7-13-34	SITC of a self powered 15" full range speaker with a built in 1200W RMS Class D amplifier. The backside of the speaker to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. Coverage angle of the speaker to be 90 deg X 60 Deg, integrated top handle as well as pole mount facility. Must also be able to be used as a stage/floor monitor. Speaker to contain(1) Stereo RCA Input, (2)XLR/TRS combo jack, and (1)XLR. Speaker to generate a max SPL of 132 dB Or Better	Ea.	1,61,818.00	16,182.00	1,78,000.00
.00	7-13-35	SITC of a self powered 12" High-efficiency Subwoofer with a built in 1200W RMS Class D amplifier. The backside of the Subwoofer to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. integrated side handle. Subwoofer Contain (2) XLR/TRS combo jacks and (2) XLR link outputs. Subwoofer to generate a max SPL of 129 dB Or Better	Ea.	1,50,273.00	15,027.00	1,65,300.00
700.00	7-13-36	SITC of a self powered 18" High-efficiency Subwoofer with a built in 1800W RMS Class D amplifier. The backside of the Subwoofer to contain a LCD display and 1-knob DSP control with presets for precise and speedy setup. integrated side handle. Subwoofer Contain (2) XLR/TRS combo jacks and (2) XLR link outputs. Subwoofer to generate a max SPL of 135 dB Or Better	Ea.	1,85,000.00	18,500.00	2,03,500.00



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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-37	SITC of Portable Powered Column Loudspeaker system consisting of a powered 10" subwoofer enclosure and a Column Array consisting of 6 x 2.8" neodymium drivers or better. The Loudspeaker System should have a Frequency response (-3 dB): 51 Hz - 20 KHz, Maximum SPL: 123 dB, Coverage (H x V): 120° x 40°, Amplifier rating: 1000 W with LF channel rating: 500 W & HF channel rating: 500 W. 4x XLR/TRS combo jack line/mic input 4x XLR/TRS combo jack line/mic input, 2x XLR/TRS combo jack for stereo line input, 1x 1/4" TRS Hi-Z input, 1x stereo RCA input, 1x 3.5 mm stereo input 1x wireless stereo Bluetooth® audio input, 1x 1/4" foot switch input, 1x XLR mix out output, 1x XLR aux out output: Sub: 15 mm plywood, Column: Composite Pole: Aluminum, Grille: Steel with black powder coat better.	Ea.	2,93,091.00	29,309.00	3,22,400.00
7-13-38	SITC of Portable Powered Column Loudspeaker system consisting of a powered 12" subwoofer enclosure and a Column Array consisting of 8 x 3.5" neodymium drivers . The Loudspeaker System should have a Frequency response (-3 dB): 43 Hz - 20 KHz, Maximum SPL: 127 dB, Coverage (H x V): 120° x 40°, Amplifier rating: 1000 W with LF channel rating: 500 W & HF channel rating: 500 W. 2x XLR/TRS Combo Jack Input, 1x 3.5 mm Input, 1x Stereo RCA Input, 1x Wireless Bluetooth® Audio Input, 1x XLR THRU Output, 1x XLR MIX OUT Output: Sub: 15 mm plywood, Column: Composite Pole: Aluminum, Grille: Steel with black powder coat better.	Ea.	3,65,655.00	36,565.00	4,02,220.00
7-13-39	SITC of Weatherproof Flyable 8", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 60 Hz-20kHz, sensitivity (1W/1m) 92 dB SPL or more, delivering Max SPL of 121 dB or more with power handling pk 800W or more. The speaker cabinet should have a horizontal x vertical coverage angle of 100 x 100 degree with Integrated QuickSAM Heavy-Duty Strong-Arm Mounting Bracket	Ea.	1,04,636.00	10,464.00	1,15,100.00
7-13-40	SITC of Weatherproof Flyable 8", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 60 Hz-20kHz, sensitivity (1W/1m) 94 dB SPL or more, delivering Max SPL of 123 dB or more with power handling pk 800W or more. The speaker cabinet should have a horizontal x vertical coverage angle of 90 x 50 degree with Integrated QuickSAM Heavy-Duty Strong-Arm Mounting Bracket	Ea.	1,04,636.00	10,464.00	1,15,100.00



Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-41	SITC of Weatherproof Flyable 8", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 60 Hz-20kHz, sensitivity (1W/1m) 92 dB SPL or more, delivering Max SPL of 121 dB or more with power handling pk 800W or more. The speaker should have a the following wattage taps: 100V - 100 W, 50 W, 8 Ohm bypass. The speaker cabinet should have a horizontal x vertical coverage angle of 100 x 100 degree with Integrated QuickSAM Heavy-Duty Strong-Arm Mounting Bracket	Ea	1,25,091.00	12,509.00	1,37,600.00
7-13-42	SITC of Weatherproof Flyable 8", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 60 Hz-20kHz, sensitivity (1W/1m) 94 dB SPL or more, delivering Max SPL of 123 dB or more with power handling pk 800W or more. The speaker should have a the following wattage taps: 100V - 100 W, 50 W, 8 Ohm bypass. The speaker cabinet should have a horizontal x vertical coverage angle of 90 x 50 degree with Integrated QuickSAM Heavy-Duty Strong-Arm Mounting Bracket	Ea	1,25,091.00	12,509.00	1,37,600.00
7-13-43	SITC of Flyable 15", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 18 kHz, sensitivity (1W/1m) 98 dB SPL or more, delivering Max SPL of 132 dB or more with power handling 600W Continue 2400W Peak . The speaker should have a the The speaker cabinet should have a horizontal x vertical coverage angle of 60 x 60 degree with Adjustable Monitor Angle (45° or 55°) .	Ea	2,50,300.00	25,030.00	2,75,330.00
7-13-44	SITC of Flyable Weather-Resistant 15", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 18 kHz, sensitivity (1W/1m) 98 dB SPL or more, delivering Max SPL of 132 dB or more with power handling 600W Continue 2400W Peak . The speaker should have a the The speaker cabinet should have a horizontal x vertical coverage angle of 60 x 60 degree with Adjustable Monitor Angle (45° or 55°) .	Ea	3,10,091.00	31,009.00	3,41,100.00
7-13-45	SITC of Flyable Weather-Resistant 15", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 18 kHz, sensitivity (1W/1m) 98 dB SPL or more, delivering Max SPL of 132 dB or more with power handling 600W Continue 2400W Peak . The speaker should have a the The speaker cabinet should have a horizontal x vertical coverage angle of 90 x 50 degree with Adjustable Monitor Angle (45° or 55°) .	Ea	2,50,273.00	25,027.00	2,75,300.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-46	SITC of Flyable Weather-Resistant 15", high power, high sensitivity, 2-way loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 18 kHz, sensitivity (1W/1m) 98 dB SPL or more, delivering Max SPL of 132 dB or more with power handling 600W Continuous 2400W Peak. The speaker should have a the The speaker cabinet should have a horizontal x vertical coverage angle of 60 x 60 degree with Adjustable Monitor Angle (45° or 55°).	Ea.	3,10,091.00	31,009.00	3,41,100.00
7-13-47	SITC of Handheld Wireless Mic with Cardioid polar pattern, Dynamic microphone, frequency response 80Hz-18kHz, RF sensitivity < 1.0 Uv, image rejection > 55dB, Dynamic range > 95dB and receiver having 30 or more channels possible, S/N ratio > 100dB A, dynamic range > 95dB B, distortion < 1 %, frequency band: 618-634MHz, more than 12hrs battery life with AA battery. The transmitter & receiver should be of metal body	Ea.	65,509.00	6,551.00	72,060.00
7-13-48	SITC of Wireless Mic Lapel with condenser, frequency response 100Hz-15kHz, Cardioid polar pattern, RF sensitivity < 1.0 Uv, image rejection > 55dB, Dynamic range > 95dB and receiver having 32 channels possible, S/N ratio > 100dB A, dynamic range > 95dB B, distortion < 1 %, frequency band: 618-634MHz, more than 12hrs battery life with AA battery. The transmitter & receiver should be of metal body	Ea.	65,509.00	6,551.00	72,060.00
7-13-49	SITC of Wireless Headworn Mic with condenser, frequency response 100Hz-15kHz, Cardioid polar pattern, RF sensitivity < 1.0 Uv, image rejection > 55dB, Dynamic range > 95dB and receiver having 32 channels possible, S/N ratio > 100dB A, dynamic range > 95dB B, distortion < 1 %, more than 12hrs battery life with AA battery. The transmitter & receiver should be of metal body	Ea.	68,818.00	6,882.00	75,700.00
7-13-50	Supply of Corded Vocal Microphone with Dynamic Neodymium Magnet microphone element, with frequency response 80Hz-16kHz, Super-Cardioid polar pattern, sensitivity of 2.2mV/Pa and output impedance 600 ohm	Ea.	16,527.00	1,653.00	18,180.00
7-13-51	SITC of Corded Instrument Microphone with Self Biased condenser microphone element, with frequency response of 55Hz-16kHz, Cardioid polar pattern, sensitivity of 5.5mV/Pa, rated impedance of 200 ohm, maximum spl. 132dB SPL and dynamic range :107dB	Ea.	13,182.00	1,318.00	14,500.00
7-13-52	SITC of Corded Dynamic Instrument Supercardioid Snare/Tom Microphone with Self Biased condenser microphone element, with frequency response of 50Hz-16kHz, Supercardioid Cardioid polar pattern, sensitivity of 2.2mV/Pa, rated impedance of 600 ohm.	Ea.	13,182.00	1,318.00	14,500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-53	SITC of Freestanding 12" Goose neck Mic with base for podium having dual condenser back electret microphone element, Selectable Omnidirectional/ Cardioid/ Supercardioid/ Hyper Cardioid polar pattern, LED status display and with programmable button for Push to Talk or Push to Mute functions having frequency response 50Hz-20kHz, sensitivity 5.5mV/Pa, clipping level >125dB SPL, output impedance 200 ohm, Dynamic Range > 100 dB.	Ea.	75,364.00	7,536.00	82,900.00
7-13-54	SITC of Freestanding 18" Goose neck Mic with base for podium having dual condenser back electret microphone element, Selectable Omnidirectional/ Cardioid/ Supercardioid/ Hyper Cardioid polar pattern, LED status display and with programmable button for Push to Talk or Push to Mute functions having frequency response 50Hz-20kHz, sensitivity 5.5mV/Pa, clipping level >125dB SPL, output impedance 200 ohm, Dynamic Range > 100 dB.	Ea.	75,364.00	7,536.00	82,900.00
7-13-55	SITC of Corded Boundary Layer Half Cardioid Microphone with Condenser, back electret, with frequency response 80Hz-15kHz, Super-Cardioid polar pattern, sensitivity of 25 mV/Pa and output impedance 200 ohm	Ea.	39,836.00	3,984.00	43,820.00
7-13-56	SITC of Condenser Cardioid 12" Goose neck Microphone for Podium with back electret, with frequency response 100 Hz to 15,000 Hz, Cardioid polar pattern, sensitivity of 4.5 mV/Pa and output impedance 200 ohm	Ea.	39,836.00	3,984.00	43,820.00
7-13-57	SITC of Condenser Cardioid 18" Goose neck Microphone for Podium with back electret, with frequency response 100 Hz to 15,000 Hz, Cardioid polar pattern, sensitivity of 4.5 mV/Pa and output impedance 200 ohm	Ea.	39,836.00	3,984.00	43,820.00
7-13-58	Supply of UHF antenna/power distribution system for providing power and RF signals for 4 units with frequency band: 600 - 700 MHz	Ea.	89,545.00	8,955.00	98,500.00
7-13-59	Supply of 25 feet, 50 ohm low loss semi-flexible coaxial cable with Less than 3.5 dB loss per 100 feet at UHF frequencies with Terminated on both ends with TNC connectors	Ea.	18,182.00	1,818.00	20,000.00
7-13-60	Supply of 50 feet, 50 ohm low loss semi-flexible coaxial cable with Less than 3.5 dB loss per 100 feet at UHF frequencies with Terminated on both ends with TNC connectors	Ea.	45,545.00	4,555.00	50,100.00
7-13-61	Supply of 100 feet, 50 ohm low loss semi-flexible coaxial cable with Less than 3.5 dB loss per 100 feet at UHF frequencies with Terminated on both ends with TNC connectors	Ea.	69,636.00	6,964.00	76,600.00
7-13-62	SITC of UHF Antenna amplifier with 500-900MHz RF Frequency range	Ea.	23,909.00	2,391.00	26,300.00
7-13-63	SITC of UHF Log Periodic Antenna with includes 10Feet coax cable for remote mounting.	Ea.	52,727.00	5,273.00	58,000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-64	SITC of 2 channel Class AB Professional Power Amplifier 2 x 450 W Power with Output Power $\geq 270W@8$ ohms, $\geq 450W@4$ Ohms for dual channel operation;Max Bridged Output Power $\geq 1300W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 40 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >106 dB .Protection Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn on delay	Ea.	1,07,918.00	10,792.00	1,18,710.00
7-13-65	SITC of 2 channel Class AB Professional Power Amplifier 2 x 600 W Power with Output Power $\geq 380W@8$ ohms, $\geq 600W@4$ Ohms for dual channel operation;Max Bridged Output Power $\geq 1800W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 40 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >107 dB .Protection Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn on delay	Ea.	1,37,127.00	13,713.00	1,50,840.00
7-13-66	SITC of 2 channel Class AB Professional Power Amplifier 2 x 900 W Power with Output Power $\geq 550W@8$ ohms, $\geq 900W@4$ Ohms for dual channel operation;Max Bridged Output Power $\geq 2800W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 40 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >109 dB .Protection Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn on delay	Ea.	1,65,327.00	16,533.00	1,81,860.00
7-13-67	SITC of 2 channel Class AB Professional Power Amplifier 2 x 1200 W Power with Output Power $\geq 750W@8$ ohms, $\geq 1200W@4$ Ohms for dual channel operation;Max Bridged Output Power $\geq 3600W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 40 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >110 dB .Protection Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn on delay	Ea.	2,48,700.00	24,870.00	2,73,570.00
7-13-68	SITC of 2 channel class D/H Power amplifier with built in Audio Digital Signal Processor, a Maximum Output Power $\geq 350W@8$ ohms, $\geq 660W@4$ Ohms for single channel operation;Max Bridged Output Power $\geq 2000W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 21 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >104 dB,with built in Digital Signal processor like - 31 Band Graphic Equalizer per channel, Parametric Equalizer per channel, Output delays, Audio Limiters, Audio Filters	Ea.	1,13,818.00	11,382.00	1,25,200.00

Total	Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
18,710.00	7-13-69	SITC of 2 channel class D/H Power amplifier with built in Audio Digital Signal Processor, a Maximum Output Power $\geq 480W@8$ ohms, $\geq 950W@4$ Ohms for single channel operation;Max Bridged Output Power $\geq 2800W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 21 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >105 dB,with built in Digital Signal processor like - 31 Band Graphic Equalizer per channel, Parametric Equalizer per channel, Output delays, Audio Limiters, Audio Filters	Ea.	1,39,091.00	13,909.00	1,53,000.00
0,840.00	7-13-70	SITC of 2 channel class D/H Power amplifier with built in Audio Digital Signal Processor, a Maximum Output Power $\geq 700W@8$ ohms, $\geq 1400W@4$ Ohms for single channel operation;Max Bridged Output Power $\geq 4400W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 21 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >107 dB,with built in Digital Signal processor like - 31 Band Graphic Equalizer per channel, Parametric Equalizer per channel, Output delays, Audio Limiters, Audio Filters	Ea.	1,68,909.00	16,891.00	1,85,800.00
1,000.00	7-13-71	SITC of 2 channel class D/H Power amplifier with built in Audio Digital Signal Processor, a Maximum Output Power $\geq 900W@8$ ohms, $\geq 1700W@4$ Ohms for single channel operation;Max Bridged Output Power $\geq 6000W @ 4$ ohms Frequency Response (+/- 1dB) ref. 1 KHz:10 Hz to 21 kHz,Max input level:+21dBu,Crosstalk< - 80dB,input impedance:20kohm,signal to noise ratio >109 dB,with built in Digital Signal processor like - 31 Band Graphic Equalizer per channel, Parametric Equalizer per channel, Output delays, Audio Limiters, Audio Filters	Ea.	2,38,364.00	23,936.00	2,63,300.00
0.00	7-13-72	SITC of 2 channel Power amplifier with Maximum Output Power $\geq 2 \times 270W$ at 70V or 270W at 4 Ohms;Max Bridged Output Power $\geq 1 \times 540W$ at 8 ohms Frequency Response (+/- 1dB) ref. 65Hz-40KHz, signal to noise ratio >103 dB,with built in protection Audio Limiters, High temperature,Peak current limiter,Turn-on delay.	Ea.	1,27,227.00	12,723.00	1,39,950.00
200.00	7-13-73	SITC of 2 channel Power amplifier with Maximum Output Power $\geq 2 \times 430W$ at 70V or at 4 Ohms;Max Bridged Output Power $\geq 1 \times 860W$ at 8 ohms Frequency Response (+/- 1dB) ref. 65Hz-40KHz, signal to noise ratio >103 dB,with built in protection Audio Limiters, High temperature,Peak current limiter,Turn-on delay.	Ea.	1,58,045.00	15,805.00	1,73,850.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-74	SITC of Powered Mixer with 5 MIC/LINE input channels with compressor/limiter and talk-over function, 3 Stereo Inputs including Jack, RCA and USB connectors, onboard player for MP3 or WAV audio files, high quality effects section with 32 editable presets, 3 Master outputs with 7-band EQ each and flexible signal routing options, delay line for Master-B (150 msec/50 m), headphones control, LPN speaker processing, class-D 2 x 450 W RMS / 2 x 600 W / 4 Ω program power, micro-controlled power supply (100- 240 V), Direct Drive option for 100 V speaker lines, comprehensive protection package, live and install connectivity or better.	Ea.	2,20,091.00	22,009.00	2,42,100.00
7-13-75	SITC of 8 channel Compact Mixing System (4 x Mic/Line + 2 x Mic/Stereo-Line), Auxiliary Pre/Post switchable, Frequency Response, -3 dB, ref. 1 kHz : 15 Hz to 70 kHz, Crosstalk, 1 kHz Channel to Channel < -80 dB, THD at 1 kHz < 0.005%, CMRR MIC input 1 kHz > 80 dB, Dual stereo 24/48-bit multi effects processors, 100 Factory + 20 User, Tap-Delay, Digital Audio Interface Channels : 4 In / 4 Out, AD/DA Conversion, Sampling Rate : 24-bit, 44.1 / 48 / 88.2 / 96 kHz	Ea.	2,27,864.00	22,786.00	2,50,650.00
7-13-76	SITC of 10 channel Compact Mixing System (6 x Mic/Line + 4 x Mic/Stereo-Line), Auxiliary (MON, FX, AUX) : 2 Pre, 2 Post, 2 Pre/Post switchable, Frequency Response, -3 dB, ref. 1 kHz : 15 Hz to 65 kHz, Crosstalk, 1 kHz Channel to Channel < -80 dB, THD at 1 kHz < 0.005%, CMRR MIC input 1 kHz > 80 dB, Dual stereo 24/48-bit multi effects processors, 100 Factory + 20 User, Tap-Delay, Digital Audio Interface Channels : 4 In / 4 Out, AD/DA Conversion, Sampling Rate : 24-bit, 44.1 / 48 / 88.2 / 96 kHz	Ea.	3,04,600.00	30,460.00	3,35,060.00
7-13-77	SITC of 16 channel Compact Mixing System (12 x Mic/Line + 4 x Mic/Stereo-Line), Auxiliary (MON, FX, AUX) : 2 Pre, 2 Post, 2 Pre/Post switchable, Frequency Response, -3 dB, ref. 1 kHz : 15 Hz to 65 kHz, Crosstalk, 1 kHz Channel to Channel < -80 dB, THD at 1 kHz < 0.005%, CMRR MIC input 1 kHz > 80 dB, Dual stereo 24/48-bit multi effects processors, 100 Factory + 20 User, Tap-Delay, Digital Audio Interface Channels : 4 In / 4 Out, AD/DA Conversion, Sampling Rate : 24-bit, 44.1 / 48 / 88.2 / 96 kHz	Ea.	3,70,727.00	37,073.00	4,07,800.00



Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-78	SITC of 22 channel Compact Mixing System (18 x Mic/Line + 4 x Mic/Stereo-Line), Auxiliary (MON, FX, AUX) : 2 Pre, 2 Post, 2 Pre/Post switchable, Frequency Response, -3 dB, ref. 1 kHz : 15 Hz to 65 kHz, Crosstalk, 1 kHz Channel to Channel < -80 dB, THD at 1 kHz < 0.005%, CMRR MIC input 1 kHz > 80 dB, Dual stereo 24/48-bit multi effects processors, 100 Factory + 20 User, Tap-Delay, Digital Audio Interface Channels : 4 In / 4 Out, AD/DA Conversion, Sampling Rate : 24-bit, 44.1 / 48 / 88.2 / 96 kHz	Ea.	4,50,209.00	45,021.00	4,95,230.00
7-13-79	SITC of 6.5" LF, 1" HF two way loudspeaker for Front Fills with rotatable horn The loudspeaker shall have the frequency . Range (-10 dB): 65 Hz - 20kHz It should have an axial Sensitivity≥ 90 dB (1W/1m) delivering a Max. Calculated SPL≥ 120 dB. The loudspeaker should have a nominal impedance :8ohm and Power Handling pk:≥600W with M8 threaded Suspension point.	Ea.	2,15,273.00	21,527.00	2,36,800.00
7-13-80	Supply of high-power, front-loaded bass 18" Subwoofer with Freq. Range : 30 Hz - 135 Hz Hz. It should have an axial Sensitivity≥ 97 dB (1W/1m) delivering a Max. SPL≥ 128 dB with power handling pk 1600W, The speaker should have a nominal impedance of 8 ohm. M8 threaded Suspension point.	Ea.	5,81,855.00	58,185.00	6,40,040.00
7-13-81	SITC of Two Way Passive/Biampable Line array element having 2 x 8"/10" LF, MF/HF drivers as per OEM Speaker Models Selected with Frequency Response(+/-3 dB) : 75Hz-16 kHz, horizontal coverage angle of 100 degrees nominal or more ,Maximum Peak Output: 120 to 130 dB SPL@1m, or better	Ea.	8,04,009.00	80,401.00	8,84,410.00
7-13-82	SITC of High Output Dual 18" Subwoofer with Frequency Range (-10 dB): 31 Hz - 250 Hz, Sensitivity≥102 dB (1 watt@1m),Maximum Peak Output: 139 dB (@1m),Power Handling pk 4,800 watts or better	Ea.	9,11,964.00	91,196.00	10,03,160.00
7-13-83	SITC of 8", high power, high sensitivity, 2-way Full Range loudspeaker. The speaker cabinet must have frequency range (-3dB) of 110 Hz - 16 kHz, sensitivity (1W/1m) 95 dB SPL or more, delivering Max SPL of 123 dB or more with power handling 175 W continuous & peak 700W. Impedance: 8 Ω (nominal) .The speaker cabinet should have a horizontal x vertical coverage angle of 90 x 50 degree. The speaker should have (6) M8 threaded suspension points. IEC 60529 Environmental Condition	Ea.	2,15,282.00	21,528.00	2,36,810.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-84	SITC of 12", high power, high sensitivity, 2-way Full Range loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 16 kHz, sensitivity (1W/1m) 98 dB SPL, delivering Max SPL of 131 dB with power handling 500 W continuous & peak 2000W. LF Transducer - SMX2121 .HF Transducer - ND2B, Impedance: 8 Ω (nominal). The speaker cabinet should have a horizontal x vertical coverage angle of 60° x 40° Constant Directivity with 12-inch Rotatable Waveguide degree. The speaker should have (22) M8 threaded suspension points.	Ea.	8,57,645.00	85,765.00	9,43,410.00
7-13-85	SITC of 12", high power, high sensitivity, 2-way Full Range loudspeaker. The speaker cabinet must have frequency range (-3dB) of 58 Hz - 16 kHz, sensitivity (1W/1m) 98 dB SPL, delivering Max SPL of 131 dB with power handling 500 W continuous & peak 2000W. LF Transducer - SMX2121 .HF Transducer - ND2B, Impedance: 8 Ω (nominal). The speaker cabinet should have a horizontal x vertical coverage angle of 90° x 60° Constant Directivity with 12-inch Rotatable Waveguide degree. The speaker should have (22) M8 threaded suspension points.	Ea.	8,57,645.00	85,765.00	9,43,410.00
7-13-86	SITC of 15", high power, high sensitivity, 2-way Full Range loudspeaker. The speaker cabinet must have frequency range (-3dB) of 70Hz - 14 kHz, sensitivity (1W/1m) 101 dB SPL, delivering Max SPL of 134 dB with power handling 500 W continuous & peak 2000W. LF Transducer - SMX2121 .HF Transducer - ND2B, Impedance: 8 Ω (nominal). The speaker cabinet should have a horizontal x vertical coverage angle of 60° x 40° Constant Directivity with 15-inch Rotatable Waveguide degree. The speaker should have (22) M10 Threaded Points.	Ea.	9,11,962.00	91,196.00	10,03,158.00
7-13-87	SITC of 15", high power, high sensitivity, 2-way Full Range loudspeaker. The speaker cabinet must have frequency range (-3dB) of 70Hz - 14 kHz, sensitivity (1W/1m) 101 dB SPL, delivering Max SPL of 134 dB with power handling 500 W continuous & peak 2000W. LF Transducer - SMX2121 .HF Transducer - ND2B, Impedance: 8 Ω (nominal). The speaker cabinet should have a horizontal x vertical coverage angle of 90° x 60° Constant Directivity with 15-inch Rotatable Waveguide degree. The speaker should have (22) M10 Threaded Points.	Ea.	9,11,962.00	91,196.00	10,03,158.00
7-13-88	SITC of 15", high power, high sensitivity, Dual 15" Front-Loaded Bass Element. The cabinet must have frequency range (-3dB) of 40 Hz - 2.6 kHz, sensitivity (1W/1m) 101 dB SPL, delivering Max SPL of 137 dB with power handling 1000 W continuous & peak 4000W. LF Transducer -Dual DVX3159A Impedance: 4 Ω (nominal). The cabinet should have (28) M10 Threaded Points.	Ea.	8,04,007.00	80,401.00	8,84,408.00

Total

3,410.00

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No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-13-89	SITC of 8-channel compact Powered Mixer with 4 MIC/LINE input channels with compressor/limiter and talk-over function, 2 Stereo line Inputs including, RCA and USB connectors, onboard player for MP3 or WAV audio files, 2 High-Quality editable effects, 100 factory and 20 user presets., Built in 128 x 64 pixels OLED Display .The built in USB audio interface shares 4 playback and 4 recording channels simultaneously with a PC or Mac, following studio standard 24-bit / 96 kHz LPN speaker processing, class-D 2 x 1000 W / 4 Ω program power for Speaker , micro-controlled power supply (100~ 240 V)	Ea.	3,71,275.00	37,127.00	4,08,402.00
7-13-90	SITC of 10-channel compact power-mixer with 6 MIC/LINE input channels with compressor/limiter and talk-over function, 4 mic/ Stereo line Inputs including, RCA and USB connectors, onboard player for MP3 or WAV audio files, 2 High-Quality editable effects, 100 factory and 20 user presets., Built in 128 x 64 pixels OLED Display .The built in USB audio interface shares 4 playback and 4 recording channels simultaneously with a PC or Mac, following studio standard 24-bit / 96 kHz LPN speaker processing, class-D 2 x 1000 W / 4 Ω program power for Speaker , micro-controlled power supply (100~ 240 V).	Ea.	5,77,727.00	57,773.00	6,35,500.00
7-13-91	SITC of 16-channel compact power-mixer with 12 MIC/LINE input channels with compressor/limiter and talk-over function, 4 mic/ Stereo line Inputs including, RCA and USB connectors, onboard player for MP3 or WAV audio files, 2 High-Quality editable effects, 100 factory and 20 user presets., Built in 128 x 64 pixels OLED Display .The built in USB audio interface shares 4 playback and 4 recording channels simultaneously with a PC or Mac, following studio standard 24-bit / 96 kHz LPN speaker processing, class-D 2 x 1000 W / 4 Ω program power for Speaker , micro-controlled power supply (100~ 240 V).	Ea.	6,69,273.00	66,927.00	7,36,200.00
7-13-92	SITC of 22-channel compact power-mixer with 18 MIC/LINE input channels with compressor/limiter and talk-over function, 4 mic/ Stereo line Inputs including, RCA and USB connectors, onboard player for MP3 or WAV audio files, 2 High-Quality editable effects, 100 factory and 20 user presets., Built in 128 x 64 pixels OLED Display .The built in USB audio interface shares 4 playback and 4 recording channels simultaneously with a PC or Mac, following studio standard 24-bit / 96 kHz LPN speaker processing, class-D 2 x 1000 W / 4 Ω program power for Speaker , micro-controlled power supply (100~ 240 V).	Ea.	8,01,227.00	80,123.00	8,81,350.00



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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
Projector					
	Approved Make : Epson / Sony / Panasonic or equivalent				
7-14-1	SITC of 3LCD Lamp based projector having wxga (1280x800) or better resolution with minimum white brightness of 3700 lumens and color brightness of 3700 lumens. The projector should have minimum 1HDMI,1VGA input. Having contrast ratio of 15000:1 or more, the projector should have auto vertical key stone correction of +/- 30 degree and Manual Horizontal of +/- 30 degree, the projector should have optical lens, throw ratio 1.30-1.56:1. Zoom Factor of 1.2. Lens focus Manual having focal length 16.9mm to 20.28mm, projector should have features like AV mute slide, quick corner and split function and should support wireless functionality with inbuilt WiFi or wifi dongle. Approved Make : Epson / Sony / Panasonic	Ea.	55,454.00	5,545.00	60999.00
7-14-2	SITC of 3LCD Lamp based projector having wxga (1280x800) or better resolution with minimum white brightness of 2000-4000 lumens and color brightness of 2000-4000 lumens. The projector should have minimum 1HDMI,1VGA input. Having contrast ratio of 15000:1 or more, the projector should have auto vertical key stone correction of +/- 30 degree and Manual Horizontal of +/- 30 degree, the projector should have optical lens, throw ratio 1.30-1.56:1. Zoom Factor of 1.2. Lens focus Manual having focal length 16.9mm to 20.28mm, projector should have features like AV mute slide, quick corner and split function and should support wireless functionality with inbuilt wifi or wifi dongle. Approved Make : Epson / Sony / Panasonic	Ea.	74,545.00	7,454.00	81999.00
7-14-3	SITC of 3LCD Lamp based projector having wxga (1280x800) or better resolution with minimum white brightness of 3800 lumens and color brightness of 3800 lumens. The projector should have minimum 1HDMI,1VGA input. Having contrast ratio of 15000:1 or more, the projector should have auto vertical key stone correction of +/- 30 degree and Manual Horizontal of +/- 30 degree, the projector should have optical lens, throw ratio 1.30-1.56:1. Zoom Factor of 1.2. Lens focus Manual having focal length 16.9mm to 20.28mm, projector should have features like AV mute slide, quick corner and split function and should support wireless functionality with inbuilt wifi or wifi dongle. Approved Make : Epson / Sony / Panasonic	Ea.	54,545.00	5,454.00	59999.00
Projector Screen					
	Make: Suvira /Logic or equivalent				
7-15-1	SITC of 84 inch Self Lock MW (6 x 4) Instalock Slow Retraction Screen, Aspect Ratio-4:3	Ea.	5,436.00	544.00	5,980.00
7-15-2	SITC of 100 inch Self Lock MW (7 x 5) Instalock Slow Retraction Screen, Aspect Ratio-4:3	Ea.	6,130.00	613.00	6,743.00
7-15-3	SITC of 120 inch Self Lock MW (8 x 6) Instalock Slow Retraction Screen, Aspect Ratio-4:3	Ea.	8,585.00	858.00	9,443.00
7-15-4	SITC of 84 inch MW (6 x 4) Screen with Tripod Stand, Aspect Ratio-4:3	Ea.	7,862.00	786.00	8,648.00
7-15-5	SITC of 100 inch MW (7 x 5) Screen with Tripod Stand, Aspect Ratio-4:3	Ea.	8,635.00	864.00	9,499.00
7-15-6	SITC of 120 inch MW (8 x 6) Screen with Tripod Stand, Aspect Ratio-4:3	Ea.	11,295.00	1,129.00	12,424.00
7-15-7	SITC of 123 inch Fiber Glass MW Tubular Motor Screen with RF remote & LVC, Aspect Ratio-16:10	Ea.	1,01,985.00	10,198.00	1,12,183.00



Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-15-8	SITC of 100 inch Fiber Glass MW (7 x 5) Motorized Screen with RF Remote & LVC, Aspect Ratio-4:3	Ea.	68,156.00	6,816.00	74,972.00
7-15-9	SITC of 100 inch PVC MW Fixed Frame Screen, Aspect Ratio-16:9	Ea.	27,107.00	2,711.00	29,818.00
7-15-10	SITC of 120 inch PVC MW Fixed Frame Screen, Aspect Ratio-16:9	Ea.	35,599.00	3,560.00	39,159.00
7-15-11	SITC of 92 inch PVC MW Tab-Tension Tubular Motorized Screen with RF remote, Aspect Ratio-16:9	Ea.	57,454.00	5,745.00	63,199.00
7-15-12	SITC of 106 inch PVC MW Tab-Tension Tubular Motorized Screen with RF remote, Aspect Ratio-16:9	Ea.	62,483.00	6,248.00	68,731.00
7-15-13	SITC of 123 inch Fiber Glass MW Tubular Motorized Screen with RF remote, Aspect Ratio-16:10	Ea.	32,285.00	3,228.00	35,513.00
7-15-14	SITC of 135 inch Fiber Glass MW Tubular Motorized Screen with RF remote, Aspect Ratio-16:10	Ea.	36,591.00	3,659.00	40,250.00
7-15-15	Professional Display		-		
7-15-16	Make: Samsung/Panasonic/LG or equivalent		-		
7-15-17	SITC of 43 Inch 500 NTS Brightness professional Display with Direct-Type LED, Viewing Angle : 178 Degree Verti, 178 Degree Hor, Operation 27x7, Native Resolution 3840 x 2160 (16:9) - UHD, 4 x USB (2 x 2.0, 1 x 2.0 internal, 1 x Type C), 0-40°C, ≤0.5 W, HTML 5 Browser Opera(4.9), Yes(internal) IEEE 802.11 a/b/g/n Dual WiFi certificated, BIS, YES CLASS A 3dB margin.	Ea.	1,13,636.00	11,364.00	1,25,000.00
7-15-18	SITC of 55 Inch 500 NTS Brightness professional Display with Direct-Type LED, Viewing Angle : 178 Degree Verti, 178 Degree Hor, Operation 27x7, Native Resolution 3840 x 2160 (16:9) - UHD, 4 x USB (2 x 2.0, 1 x 2.0 internal, 1 x Type C), 0-40°C, ≤0.5 W, HTML 5 Browser Opera(4.9), Yes(internal) IEEE 802.11 a/b/g/n Dual WiFi certificated, BIS, YES CLASS A 3dB margin.	Ea.	2,21,591.00	22,159.00	2,43,750.00
7-15-19	SITC of SCREEN SIZE 80 cm diagonal (32" INCH), RESOLUTION HD (1366*768), USB INPUT (2.0 SUPPORT) 2*Side(USB2.0), HDMI INPUT 3*Side(HDMI 1.4), USB DEVICE SUPPORT USB Supported HDD, HOTEL MODE Yes, Basic, BLUETOOTH Yes (Ver. 4), WIFI TYPE(STANDARD) 802.11a/b/g/n 2.4G 2T2R, Built-in, WIFI BAND TYPE 2.4GHz, OS & VERSION INFO Android 'P' - 9.0, MEMORY FLASH 8GB EMMC, RAM 1.5GB, DDR3 2133 Mhz.	Ea.	54,065.00	5,407.00	59,472.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-15-20	SITC of SCREEN SIZE 105.41 cm diagonal (42" INCH), RESOLUTION FHD (1920*1080), USB INPUT (2.0 SUPPORT) 2*Side(USB2.0), HDMI INPUT 2*Side(HDMI 1.4), USB DEVICE SUPPORT USB Supported HDD, HOTEL MODE Yes, Basic, BLUETOOTH Yes (Ver. 4.1), WIFI TYPE(STANDARD) 802.11a/b/g/n 2.4G 2T2R, Built-in, WIFI BAND TYPE 2.4GHz, OS & VERSION INFO Android 'P' - 9.0, MEMORY FLASH 8GB EMMC, RAM 1.5.0GB, DDR3 2133Mhz.	Ea.	83,782.00	8,378.00	92,160.00
7-15-21	SITC of SCREEN SIZE 127 cm diagonal (50" INCH), RESOLUTION UHD (3840*2160),	Ea.	1,25,673.00	12,567.00	1,38,240.00
7-15-22	SITC of 50 Inch Android Professional Display, 55" / 139 cm diagonal, 16:9, UHD, Pixel Pitch : 0.105 (H) x 0.315 (V)mm, USB Supported HDD, Hotel Mode, CEC, Dolby Audin, Bluetooth, 802.11a/b/g/n 2.4G 2T2R, Built-in, CPU : Cortex-A55 x 4.1.1 GHz Processor, GPU : Triple core Mali470 600 Mhz	Ea.	1,49,411.00	14,941.00	1,64,352.00
Interactive Display					
	Make: Samsung/Panasonic/Newline or equivalent				
7-16-1	SITC of 65" Smart Interactive 4K display (7H hardness toughen anti glared glass In-built Android 8.0, RAM 3 GB, 16 GB ROM 10 Points Touch in Android and 20 points Touch in Windows Smart Object recognition and responsive multi-touch Multiple inputs for connectivity 15W x 2 Speakers Inbuilt Screen Sharing Software Slimmer Frame Customize GUI Wireless presentation with Quad View Option Broadcast upto 200 Devices Remote Display Management	Ea.	2,73,545.00	27,355.00	3,00,900.00
7-16-2	SITC of 75" Smart Interactive 4K display (7H hardness toughen anti glared glass In-built Android 8.0, RAM 3 GB, 16 GB ROM 10 Points Touch in Android and 20 points Touch in Windows Smart Object recognition and responsive multi-touch Multiple inputs for connectivity 15W x 2 Speakers Inbuilt Screen Sharing Software Slimmer Frame Customize GUI Wireless presentation with Quad View Option Broadcast upto 200 Devices Remote Display Management	Ea.	3,05,727.00	30,573.00	3,36,300.00
7-16-3	SITC of 86" Smart Interactive 4K display (7H hardness toughen anti glared glass In-built Android 8.0, RAM 3 GB, 16 GB ROM, 32 GB Memory Card 10 Points Touch in Android and 20 points Touch in Windows Smart Object recognition and responsive multi-touch Multiple inputs for connectivity 15W x 2 Speakers Inbuilt Screen Sharing Software Slimmer Frame Customize GUI Wireless presentation with Quad View Option Broadcast upto 200 Devices Remote Display Management	Ea.	5,79,273.00	57,927.00	6,37,200.00



Total	Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
92,160.00	7-16-4	SITC of 96" Smart Interactive 4K display 7H Hardness In-built Android 8.0, RAM 2 GB, 8 GB ROM 10 Points Touch in Android and 20 points Touch in Windows Smart Object recognition and responsive multi-touch Multiple Inputs for connectivity 15W x 2 Speakers Inbuilt Screen Sharing Software Slimmer Frame Customized GUI Wireless presentation with Quad View Option Broadcast upto 200 Devices Remote Display Management	Ea.	16,89,545.00	1,68,955.00	18,58,500.00
8,240.00	7-16-5	SITC of Smart Interactive Full HD 55" display 8H Hardness In built Android, RAM 2 GB, ROM 8 GB 10 Points InGlass IR Touch Smart Object recognition and responsive multi-touch 2 Wide angle Full HD cameras of 86° Field-of-View Lens Integrated in the Panel 4 Microphones with Pickup Range 8 Mtr having ECHO cancellation Integrated in the Panel 2 Nos. of 10W Speakers In-built wifi BYOD Ready	Ea.	2,41,364.00	24,136.00	2,65,500.00
1,382.00	7-16-6	SITC of 85" Smart 4K Non-Touch display In-built Android 8.0, RAM 3 GB, 16 GB ROM 20W x 2 Speakers 6 no. of Beam Forming Microphones with Echo Cancellation 50000 Hours of Life 500 nits Brightness Multiple Inputs for connectivity Inbuilt Screen Sharing Software Slimmer Frame OPS Slot for On-Board Computer Connectivity	Ea.	5,14,909.00	51,491.00	5,66,400.00
900.00	7-16-7	SITC of 98" Smart 4K Non-Touch display In-built Android 8.0, RAM 3 GB, 16 GB ROM 20W x 2 Speakers 6 no. of Beam Forming Microphones with Echo Cancellation 50000 Hours of Life 500 nits Brightness Multiple Inputs for connectivity Inbuilt Screen Sharing Software Slimmer Frame OPS Slot for On-Board Computer Connectivity	Ea.	13,67,727.00	1,36,773.00	15,04,500.00
00.00	7-16-8	SITC of On-Board Computer OPS (Core i7 Processor, 8 GB RAM, 256 GB SSD) with the software as per the detailed Specifications	Ea.	1,54,473.00	15,447.00	1,69,920.00
	7-16-9	SITC of On-Board Computer OPS (Core i5 Processor, 8 GB RAM, 128 GB SSD) with the software as per the detailed Specifications	Ea.	1,02,982.00	10,298.00	1,13,280.00
Switcher and Controller						
		Make: Extron /Crestron /AMX/krammer or equivalent				
2.00	7-17-1	Supply, Installation Testing & Commissioning of Wireless Presentation Device with Display control & Miracast Technology as per the detailed Specifications	Ea.	2,37,051.00	23,705.40	2,60,756.40
	7-17-2	Supply, Installation Testing & Commissioning of DIN Rail High-Voltage Switch with Digital Inputs as per the detailed Specifications	Ea.	37,073.00	3,707.80	40,780.80
	7-17-3	Supply, Installation Testing & Commissioning of DIN Rail Universal Dimmer, 1 feed, 4 channels as per the detailed Specifications	Ea.	26,872.00	2,687.00	29,559.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-17-4	Supply, Installation Testing & Commissioning of DIN Rail Universal Dimmer, 1 feed, 4 channels as per the detailed Specifications	Ea.	1,52,928.00	15,292.80	1,68,220.80
7-17-5	Supply, Installation Testing & Commissioning of Wall Plate Automation control Processor as per the detailed Specifications	Ea.	1,86,301.00	18,629.60	2,04,930.60
7-17-6	Supply, Installation Testing & Commissioning of 8x6 Digital Signal Processor as per the detailed Specifications	Ea.	2,54,880.00	25,488.00	2,80,368.00
7-17-7	Supply, Installation Testing & Commissioning of 4K60 4:4:4 HDR Receiver and Room Controller with Scaler as per the detailed Specifications	Ea.	2,29,392.00	22,939.20	2,52,331.20
7-17-8	Supply, Installation Testing & Commissioning of Wall mounted twisted pair Receiver HDMI wall Plate as per the detailed Specifications	Ea.	49,817.00	4,982.20	54,799.20
7-17-9	Supply, Installation Testing & Commissioning of Wall mounted 2x1 auto-switcher with twisted pair Transmitter wall Plate (HDMI, VGA & Audio Input) as per the detailed Specifications	Ea.	1,23,739.00	12,374.00	1,36,113.00
7-17-10	Supply, Installation Testing & Commissioning of 1:4 HDMI Distribution Amplifier w/4K60 4:4:4 & HDR Support as per the detailed Specifications	Ea.	70,221.00	7,021.80	77,242.80
7-17-11	Supply, Installation Testing & Commissioning of Surface mounted twisted pair HDMI Receiver supports 4K resolution upto 130 ft or more as per the detailed Specifications	Ea.	42,158.00	4,216.00	46,374.00
7-17-12	Supply, Installation Testing & Commissioning of Surface mounted twisted pair HDMI Transmitter supports 4K resolution upto 130 ft or more as per the detailed Specifications	Ea.	42,158.00	4,216.00	46,374.00
7-17-13	Supply, Installation Testing & Commissioning 3 ft HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	5,085.00	508.20	5,593.20
7-17-14	Supply, Installation Testing & Commissioning 6 ft HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	6,501.00	649.80	7,150.80
7-17-15	Supply, Installation Testing & Commissioning 12 ft HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	9,043.00	904.40	9,947.40
7-17-16	Supply, Installation Testing & Commissioning 20 ft HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	12,744.00	1,274.40	14,018.40
7-17-17	Supply, Installation Testing & Commissioning 30 ft HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	17,829.00	1,782.60	19,611.60



Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
Network based EPABX System					
Make: Cisco / Avaya / NEC or equivalent					
7-18-1	SITC of Digital / PCM / TDM EPABX System having SMT design, system with flexible universal slots. Inbuilt Auto attendant facility, Minimum 15 Nos. conference, Analog extension line, Calling GSM, E&M line, PRI / E1 & VOIP program me through Analog telephone digital key from Ethernet, public address cord, shall have unrestricted simultaneous dialing facility, QSIG protocol on PRI, 95 / STD / ISD / Local-Locking, Class of Service, Quick Dial-Single Digit dialing of any two external number, Once only ring device, Boss/Secretary-Do not disturb Facility, Power Down Mode, Hot Line, Hot Outward Dialing, Day Night Mode, Auto Call Back, Barge-in, Call Pick Up & Call Transfer, Call transfer while Ringing with Voice Guide System, (DISA), Caller ID (CLI), CLI Base ECF, CLI Base routing Internet Ready Port, External Music Port, Call Budgeting, Call Cost Calculation (ASMDR), DID Direct Inverse Dialing, External Music Input, Fax Homing, Global Directory Printing with following capacities	Ea			
	[A] No of Extension 16, No of Junctions 6, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 64, Operators Console - 01 Compatible : ISDN	Ea	74,662.00	7,466.00	82,128.00
	[B] No of Extension 24, No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 96, Operators Console - 01 Compatible : ISDN	Ea	1,03,304.00	10,330.00	1,13,634.00
	[C] No of Extension 48, No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN	Ea	1,87,620.00	18,762.00	2,06,382.00
	[D] No of Extension 64, No of Junctions 12, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN and Networking	Ea	2,25,273.00	22,527.00	2,47,800.00
	[E] No of Extension 128, No of Junctions 24, No of expandable ports : 512, Operators Console - 01 Compatible : ISDN and Networking	Ea	8,68,909.00	86,891.00	9,55,800.00
7-18-2	IP Phone with display	Ea	24,136.00	2,414.00	26,550.00
7-18-3	Small EPABX System with In Built 4 Port Voice Mail				
	[A] No of Extension 16, No of Junctions 6, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 64, Operators Console - 01 Compatible : ISDN	Ea	1,64,771.00	16,477.00	1,81,248.00
	[B] No of Extension 24, No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 96, Operators Console - 01 Compatible : ISDN	Ea	1,93,413.00	19,341.00	2,12,754.00

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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[C] No of Extension 48, No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN	Ea.	2,77,729.00	27,773.00	3,05,502.00
	[D] No of Extension 64, No of Junctions 12, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN and Networking	Ea.	3,15,382.00	31,538.00	3,46,920.00
	[E] No of Extension 128, No of Junctions 24, No of expandable ports : 512, Operators Console - 01 Compatible : ISDN and Networking	Ea.	9,59,018.00	95,902.00	10,54,920.00
7-18-5	SITC of IP Card for IP Trunk & IP Extension No of expandable port : 112	Ea.	43,445.00	4,345.00	47,790.00
7-18-6	SITC of IP Trunk License Per User	Ea.	5,053.00	504.80	5,557.80
7-18-7	SITC of IP Card for IP Trunk & IP Extension No of expandable port : 896	Ea.	49,882.00	4,988.00	54,870.00
7-18-8	SITC of IP Trunk License Per User	Ea.	4,464.00	445.98	4,909.98
7-18-9	SITC of IP Extension License Per User	Ea.	4,464.00	445.98	4,909.98
Telephone Instrument					
	Make: Beutel / Panasonic or equivalent				
7-19-1	SITC of Ringer Volume Control, Tone/Pulse, Redial, Pause, Mute, Wall-Mountable	Ea.	1,133.00	113.08	1,246.08
7-19-2	SITC of Ringer LED Indicator, Ringer Volume Control, Receive Volume Control, Tone/Pulse, Flash, Redial, Mute, Desktop/Wall-mountable	Ea.	1,133.00	113.08	1,246.08
7-19-3	SITC of TELETWIN / Convenience of mini EPABX, Intercom Facility, Call Privacy, Flash, Pause	Ea.	5,590.00	558.98	6,148.98
7-19-4	SITC of Ringer LED Indicator, Ringer Volume Control, Tone/Pulse, Redial, Mute (Brown Box)	Ea.	1,011.00	100.56	1,111.56
7-19-5	SITC of 100 Phone book memory / 30 INC / 10 OGM / SPKR phone / Alarm Function / 5 Polyphonic Ringtones	Ea.	5,535.00	553.80	6,088.80
7-19-6	SITC of Combo Phone / 3 Line LCD / Intercom feature / Digital Answering Machine / 150 Names Phonebook / 2 Way spkr / 5 One touch memory / 3 Way conference / ext call transfer	Ea.	8,045.00	805.00	8,850.00
7-19-7	SITC of 50 Phone book memory / 30 INC / SPKR phone LCD Back light /05 Polyphonic Ringtones/ Alarm function	Ea.	3,408.00	340.86	3,748.86
7-19-8	SITC of 16-Digit 3-line LCD, Programmable Flash, 30 I/C memory, 5 O/G memory, Redial, Mute, Real Time Date, Da (W/o printing Brown Box)	Ea.	1,432.00	143.30	1,575.30
7-19-9	SITC of 16-Digit CLI LCD, Toggle Mute, 2 way Speaker, 40 I/C memory, 10 O/G memory, Redial, Auto Add 'D', DND, Adj.LCD & Ring Volume, Ring Melody 16	Ea.	2,073.00	206.76	2,279.76
7-19-10	SITC of 16-Digit 3-line LCD, Programmable Flash, 30 I/C memory, 5 O/G memory, Redial, Toggle Mute, 2 way Speaker	Ea.	1,854.00	185.04	2,039.04



Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	SITC of 16-Digit Backlight LCD, 80 I/C memory, 24 O/G memory, 2 way Speakerphone, Toggle Mute, Programmable Flash, Music on Hold	Ea.	2,127.00	212.94	2,339.94
7-19-12	SITC of 16-Digit Backlight LCD, 37 I/C memory, 15 O/G memory, 2 way Speakerphone, Flash, Music on Hold, 10 One Touch memory	Ea.	2,237.00	223.30	2,460.30
7-19-13	SITC of 16 Digit Large Backlit LCD / 6 One Touch Memory / 99 Incoming call memory / 18 Outgoing Calls Memory / Do not Disturb Feature / 2 Way Speakerphone / Adjustable LCD Contrast / Programmable Flash / Toggle Mute	Ea.	2,591.00	258.70	2,849.70
7-19-14	SITC of 16 Digit Large Backlit LCD / 10 One touch / 10 Two touch memory / CLI Announcement Feature / Room Temperature Display / 80 Incoming / 50 Outgoing call memory / 99 Name Phonebook / 18 Ringtones (00 Polyphonic) / 2 Way Speakerphone / LCD Backlit on/off Selectable / Number Backlit Feature	Ea.	3,682.00	367.76	4,049.76
7-19-15	SITC of TELETWIN / 16 Digit large backlit LCD / Twin caller ID / Call Privacy / 2 Way spr / 3 One touch memory / calculator	Ea.	8,020.00	801.68	8,821.68
7-19-16	SITC of Signal SIM CLI 2 WAY SPEAKER ,500 PHONE BOOK ,RECEIVED AND SEND SMS MAXIMUM 200 ,BATTERY S/T - 50Hrs , T/T 3 hrs.	Ea.	4,937.00	493.36	5,430.36
7-19-17	SITC of DUAL SIM CLI 2 WAY SPEAKER ,500 PHONE BOOK ,RECEIVED AND SEND SMS MAXIMUM 400 ,BATTERY S/T - 50Hrs , T/T 3 hrs.	Ea.	4,937.00	493.36	5,430.36
7-19-18	SITC of Support 2G 3G AND 4G LTE, Support VOLTE, Support WI-FI Fuction, Hot spot Capability upto 8 users 500 Phone book with name, 1000 mAh battery	Ea.	11,128.00	1,113.32	12,241.32
UPS					
	Make: APC / Socomec / Numeric or equivalent				
	Single Phase				
7-19-1	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase input and Single Phase output with inbuilt isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 1008 VAh) 1 KVA UPS with 28 AH, 3 Nos. Battery Certification : BIS	Ea.	87,159.00	8,716.00	95,875.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-19-2	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 2016 VAh) 2 KVA UPS with 28 AH, 6 Nos. Battery Certification : BIS	Ea.	1,38,650.00	13,865.00	1,52,515.00
7-19-3	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 2688 VAh) 3 KVA UPS with 28 AH, 8 Nos. Battery Certification : BIS	Ea.	1,67,614.00	16,761.00	1,84,375.00
7-19-4	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 5376 VAh) 5 KVA UPS with 28 AH, 16 Nos. Battery Certification : BIS	Ea.	3,00,364.00	30,036.00	3,30,400.00
7-19-5	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 6720 VAh) 6 KVA UPS with 28 AH, 20 Nos. Battery Certification : BIS	Ea.	3,39,250.00	33,925.00	3,73,175.00

Item No
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Total

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Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-19-6	Supplying and erecting approved make online Un- interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 8160 VAh) 7.5 KVA UPS with 34 AH, 20 Nos. Battery Certification : BIS	Ea.	3,75,455.00	37,545.00	4,13,000.00
7-19-7	Supplying and erecting approved make online Un- interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Single phase Input and Single Phase output with Inbuilt Isolation transformer with 0.8 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 10080 VAh) 10 KVA UPS with 42 AH, 20 Nos. Battery Certification : BIS	Ea.	4,55,909.00	45,591.00	5,01,500.00
Three Phase					
7-19-8	Supplying and erecting approved make online Un- interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with 0.9 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 8160 VAh) 10 KVA UPS with 34 AH, 20 Nos. Battery Certification : BIS	Ea.	9,78,864.00	97,886.00	10,76,750.00
7-19-9	Supplying and erecting approved make online Un- interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with 0.9 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 18000 VAh) 20 KVA UPS with 75 AH, 20 Nos. Battery	Ea.	13,14,091.00	1,31,409.00	14,45,500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-19-10	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with 0.9 load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 28800 VAh) 30 KVA UPS with 120 AH, 20 Nos. Battery	Ea.	17,43,182.00	1,74,318.00	19,17,500.00
7-19-11	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 46800 VAh) 40 KVA UPS with 65 AH, 60 Nos. Battery	Ea.	25,47,727.00	2,54,773.00	28,02,500.00
7-19-12	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 60480 VAh) 60 KVA UPS with 84 AH, 60 Nos. Battery	Ea.	38,20,455.00	3,62,045.00	39,82,500.00
7-19-13	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 72000 VAh) 80 KVA UPS with 100 AH, 60 Nos. Battery	Ea.	41,56,818.00	4,15,682.00	45,72,500.00

Total	Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
19,17,500.00	7-19-14	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 86400 VAh) 100 KVA UPS with 120 AH, 60 Nos. Battery	Ea.	49,61,364.00	4,96,136.00	54,57,500.00
1,00,000.00	7-19-15	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 115200 VAh) 125 KVA UPS with 160 AH, 60 Nos. Battery	Ea.	67,71,591.00	6,77,159.00	74,48,750.00
82,500.00	7-19-16	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 144000 VAh) 160 KVA UPS with 100 AH, 120 Nos. Battery	Ea.	73,75,000.00	7,37,500.00	81,12,500.00
2,00,000.00	7-19-17	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 172800 VAh) 200 KVA UPS with 120 AH, 120 Nos. Battery	Ea.	90,10,909.00	9,01,091.00	99,12,000.00



7-20-15

7-20-16

7-20-17

7-20-18

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-19-18	Supplying and erecting approved make online Un-interruptible Power Supply system with IGBT Based rectifier and Inverter & sealed maintenance free batteries. Three phase Input and Three Phase output with Inbuilt Isolation transformer with Unity (KVA=KW) load power factor with battery, over under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following capacity & with Following size of batteries for 30 Min Backup (Minimum 230400 VAh) 250 KVA UPS with 160 AH, 120 Nos. Battery	Ea.	1,18,67,045.00	11,86,705.00	1,30,53,750.00
			-	-	
Networking					
	Make: Legrand / Molex / D-Link		-		
7-20-1	SITC of O. F. Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath	Ea.	80.00	8.50	88.50
7-20-2	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM	Ea.	11,103.00	1,110.00	12,213.00
7-20-3	SITC of PIGTAIL LC SM SIMPLEX LENGTH- 1m	Ea.	1,255.00	125.60	1,380.60
7-20-4	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m	Ea.	3,057.00	306.00	3,363.00
7-20-5	SITC of CAT6 UTP 23AWG Solid: Per Meter	Ea.	67.00	6.16	73.16
7-20-6	SITC of Face Plate - Single (Keystone Jack, square)	Ea.	145.00	14.30	159.30
7-20-7	SITC of Face Plate - Dual (Keystone Jack, square)	Ea.	161.00	16.00	177.00
7-20-8	SITC of Jack Cat 6 Keystone UTP	Ea.	257.00	26.20	283.20
7-20-9	SITC of Patch Panel UTP Keystone- 24 Port- Unloaded (Cat 5e, Cat 6 & Cat 6 A)	Ea.	2,414.00	241.00	2,655.00
7-20-10	SITC of Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded	Ea.	7,080.00	708.00	7,788.00
7-20-11	SITC of CAT6 UTP 24AWG PATCH CORD:1M, Plug 30U' Snag less	Ea.	251.00	25.12	276.12
7-20-12	SITC of CAT6 UTP 24AWG PATCH CORD:2M, Plug 30U' Snag less	Ea.	322.00	32.00	354.00
7-20-13	SITC of 8 x 10/100/1000BASE-T PoE ports 2 x Gigabit SFP ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 65W PoE budget	Ea.	29,607.00	2,961.00	32,568.00
7-20-14	SITC of 24 x 10/100/1000BASE-T ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface	Ea.	24,780.00	2,478.00	27,258.00



Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
7-20-15	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget	Ea.	51,491.00	5,149.00	56,640.00
7-20-16	SITC of 48 x 10/100/1000BASE-T ports 4 x Gigabit GbE/SFP combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface	Ea.	48,916.00	4,892.00	53,808.00
7-20-17	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant	Ea.	7,724.00	772.00	8,496.00
7-20-18	SITC of 20 x SFP ports 4 x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6 SDN-enabled switch, compatible with Openflow 1.3 10-GbE SFP+ to SFP+ 1M Direct Attach Cable	Ea.	10,42,691.00	1,04,269.00	11,46,960.00

CHAPTER - VIII

Air Conditioning System, Water

CHAPTER -VIII AIR CONDITIONING SYSTEM, WATER

Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 8-1 AIR - COOLERS					
8-1-1	Supplying & Installing approved make air cooler (desert cooler) 230Volts, having brass nuts-bolts, with fan, pump, drip proof motor, filter pads, confirming to IS -3315, separate control switch for pump & fan complete with 5 mtrs. long 3core flexible copper Core and top erected on suitable stand with following air displacement capacity.				
	(A) With Stainless Steel body (i) 50 cu. mtrs / minute	Nos.	6300.00	200.00	6500.00
	(A) With Stainless Steel body (ii) 85 cu. mtrs. / minute	Nos.	7200.00	200.00	7400.00
	(B) With FRP (moulded fiber) body (i) 50 cu. mtrs minute	Nos.	4500.00	200.00	4700.00
	(B) With FRP (moulded fiber) body (ii) 65 cu. mtrs. / minute	Nos.	5000.00	200.00	5200.00
	(B) With FRP (moulded fiber) body (iii) 85 cu. mtrs / minute	Nos.	5400.00	200.00	5600.00
	(C)with ABS plastic body (i) 2000 cu. mtrs. Hr.	Nos.	4500.00	200.00	4700.00
	(C)with ABS plastic body (ii) 3000 cu. mtrs Hr.	Nos.	7200.00	200.00	7400.00
8-1-2	Supplying & Installing approved make air cooler, All plastic body injection molding made of 100% virgin Poly propylene high impact resistance material, motor should be 3 speed aluminum body with copper winding with 950RPM/220Volts/50HZ, should be "P2" type, cooling media should be 4 inch cellulose pad with maximum 5 mm flute, all hardware SS 304, Power cord and 3 Pin molded plug top, should be ball valve for automatic water refilling, should have water drainage system, should have complete cover for air cooler to protect when unused.				
A	motor 175W, fan 21-inch, sound maximum 63db, air delivery 6000 CMH, can cover 900 square feet, tank 60 Liters, cooling pad size 770x100x700 mm.	Nos.	24100.00	450.00	24550.00
B	490W, fan should be one piece aluminum pressure die cast 30" with air delivery 18000 CMH, can cover 2500 square feet, sound maximum 67db, tank 90 Liters, cooling pad size 1100x100x1150 mm.	Nos.	51700.00	450.00	52150.00
8-1-3	Supplying and installing window wall mounting stand MS powder coated as per product requirement for air cooler	Nos.	2500.00	500.00	3000.00

Regd. No. 18-3-2
 Ex. No. 18-3-2
 Sachin
 8-3-3(A)
 8-3-3(B)

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 8-2 / WINDOW TYPE AIR - CONDITIONERS					
8-2-1	Supplying and erecting approved make window type Air-Conditioning machine comprising of hermetically sealed rotary compressor, condensing & evaporating unit, fan/blower motor, thermostat, relay, remote hand sets etc suitable for				
	(A) For 3 star rated AC machine				
	(a) 1 Ton Capacity	Nos.	19500.00	1500.00	21000.00
	(b) 1.5 Ton Capacity	Nos.	22500.00	1500.00	24000.00
	(c) 2 Ton Capacity	Nos.	27500.00	1500.00	29000.00
	(B) For 5 star rated AC machine				
	(a) 1.5 Ton Capacity	Nos.	31500.00	1500.00	33000.00
8-2-2-A	Installation charges for window type air-conditioning machine by making modification to the window, if necessary by providing wooden frame made of solid wood of good quality polished for proper support of the unit blocking the side opening if any, around the unit, but within the window frame by asbestos cement sheet or hard wood from inside and outside placing the unit inside the frame and starting the unit complete with necessary painting.	Job	1200.00	500.00	1700.00
8-2-2-B	Installation charges for WT AC in existing window opening with minor civil work covering of opening.	Nos.	250.00	500.00	750.00
SECTION - 8 - 3 / SPLIT AIR-CONDITIONERS					
	Note :- Premium category: O-General, Mitsubishi electric				
8-3-1	Providing and erecting approved make split air-conditioning unit consisting of copper condensing unit with fan motor, hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes powder coated Stand, Eco Friendly green gas charging, 15A plug top & Remote Control) with necessary core cutting.				
	For 3 Star Rating of current year				
	(a) For 1 Ton Capacity	Nos.	26840.00	1500.00	28340.00
	(b) for 1.5 ton capacity	Nos.	32450.00	1500.00	33950.00
	(c) for 2 ton capacity	Nos.	41140.00	1500.00	42640.00
	For 5 star Rating of current year				
	(a) For 1 Ton Capacity	Nos.	31350.00	1500.00	32850.00
	(b) for 1.5 ton capacity	Nos.	40150.00	1500.00	41650.00
	(c) for 2 ton capacity	Nos.	52635.00	2000.00	54635.00
	For 3 Star Rating of current year with Premium Category				
	(a) For 0.8 to 1.0 Ton Capacity	Nos.	34800.00	1500.00	36300.00
	(b) for 1.5 ton capacity	Nos.	46800.00	1500.00	48300.00
	(c) for 1.7 to 2.0 ton capacity	Nos.	52635.00	2000.00	54635.00
	(d) for 2.2 to 2.5 ton capacity	Nos.	61450.00	2250.00	63700.00

Total

1000.00

1000.00

1000.00

1000.00

700.00

750.00

100.00

50.00

5.00

0.00

0.00

5.00

3.00

7.00

5.00

7.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-3-2	Providing and erecting Inverter based approved make split air-conditioning unit consisting of condensing unit with variable speed fan motor, inverter type hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes Eco Friendly green gas charging and 15A plug top & Remote Control & MS Stand) with necessary core cutting.				
	(1) For 3 Star Rating of current year				
	(A) for 0.8 to 1.0 ton capacity	Nos.	36000.00	1500.00	37500.00
	(A) for 0.8 to 1.0 ton capacity - Premium Cat.	Nos.	41000.00	1500.00	42500.00
	(B) for 1.5 ton capacity	Nos.	42500.00	1500.00	44000.00
	(B) for 1.5 ton capacity - Premium Cat.	Nos.	52000.00	1500.00	53500.00
	(C) for 1.7 to 2 ton capacity	Nos.	53000.00	1500.00	54500.00
	(C) for 1.7 to 2 ton capacity - Premium Cat.	Nos.	61000.00	1500.00	62500.00
	(D) for 2.2 to 2.5 ton capacity	Nos.	89000.00	1500.00	90500.00
	(D) for 2.2 to 2.5 ton capacity- Premium Cat.	Nos.	110000.00	1500.00	111500.00
	(2) For 5 Star Rating of current year				
	(A) for 0.8 to 1.0 ton capacity	Nos.	39000.00	1500.00	40500.00
	(A) for 0.8 to 1.0 ton capacity- Premium Cat.	Nos.	48000.00	1500.00	49500.00
	(B) for 1.5 ton capacity	Nos.	49000.00	1500.00	50500.00
	(B) for 1.5 ton capacity- Premium Cat.	Nos.	59700.00	1500.00	61200.00
	(C) for 1.7 to 2 ton capacity	Nos.	65000.00	1500.00	66500.00
	(C) for 1.7 to 2 ton capacity- Premium Cat.	Nos.	78000.00	1500.00	79500.00
8-3-3.(A)	Providing and erecting approved make Cassette type split air-conditioning unit consisting of condensing unit with fan motor, hermetically sealed scroll/rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by Eco friendly Green gas charging & Internal copper wiring & Remote control (3 star and above of current year) with necessary core cutting.				
	(A) For 1 Ton Capacity	Nos.	36630.00	2500.00	39130.00
	(B) for 1.5 ton capacity	Nos.	49500.00	2500.00	52000.00
	(C) for 2 ton capacity	Nos.	62000.00	2500.00	64500.00
	(D) for 3 ton capacity- 3Phase	Nos.	94600.00	3600.00	98200.00
	(E) for 4 ton capacity- 3Phase	Nos.	106700.00	3600.00	110300.00
8-3-3.(B)	Providing and erecting Inverter based approved make Cassette type split air-conditioning unit consisting of condensing unit with fan motor, hermetically sealed scroll/rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by Eco friendly Green gas charging & Internal copper wiring & Remote control (3 star and above of current year) with necessary core cutting.				
	(a) for 1.5 ton capacity	Nos.	71000.00	2500.00	73500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) for 2 ton capacity	Nos.	83000.00	2500.00	85500.00
	(c) for 3 ton capacity- 3Phase	Nos.	137000.00	2500.00	139500.00
	(d) for 4 ton capacity- 3Phase	Nos.	168000.00	2500.00	170500.00
8-3-4	Supplying & installing MS standard type stand mounting for outdoor unit of Split A.C. upto 4 TR capacity erected with necessary hardware materials as directed.	Nos.	600.00	150.00	750.00
8-3-5	Supplying and erecting insulated pair of soft copper tubing including power and control cable , necessary PVC drain pipes for Split AC machine up to 4 TR capacity	Rmt.	700.00	100.00	800.00
8-3-6	Supplying and installing MS angle , powder coated / Painted standard type of wall/floor stand mount for outdoor unit of split AC of following capacity, erected with necessary hardware materials as directed.	Nos.	1200.00	150.00	1350.00
	(A) 25mm*25mm*3mm thick M.S angle suitable for upto 2 TR. Capacity of ac machine	ea.	1200.00	100.00	1300.00
	(A) 35mm*35mm*5mm thick M.S angle suitable for above 2 TR to 4 TR Capacity of ac machine	ea.	1320.00	180.00	1500.00
8-3-7	Supplying & installing Floor mounted tower type AC having 2.0 Ton capacity unit consisting of Scroll/ rotary compressor operating on 1 phase 230V / 50Hz duly filled with refrigerant (green Gas) with remote control operation	Nos.	68000.00	1500.00	69500.00
8-3-8	Supplying & installing Floor mounted tower type AC having 3 ton capacity unit consisting of Scroll/ rotary compressor operating on 3 phase 415V / 50Hz duly filled with refrigerant (Green Gas) with remote control operation	Nos.	89000.00	2000.00	91000.00
8-3-9	Supplying & installing Floor mounted tower type AC having 4 ton capacity unit consisting of Scroll/ rotary compressor operating on 3 phase 415V / 50Hz duly filled with refrigerant (Green Gas) having cooling capacity upto 48000btu/hr compatible with remote control operation	Nos.	100500.00	2500.00	103000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-4 / DUCTABLE SPLIT AIR CONDITIONERS					
8-4-1	Providing and erecting approved make ductable split Air Conditioning unit each consist of remote located condensing unit and an evaporating unit complete with interconnecting insulated refrigerant piping up to 10 RMT. rigid PVC, drain piping of 10 kg / cm2 dully insulated with nitrile rubber insulation of 10 RMT with ECO Friendly Green gas . The condensing unit is complete with hermetically sealed scroll compressor & condenser unit which effectively achieves heat rejection by utilizing air of fan and coil type condenser. The evaporating unit will be complete with DX evaporator centrifugal blower, blower motor along with microprocessor biased remote controller with memory backup etc.				
A	For 5.5 Ton	Nos.	146300.00	5000.00	151300.00
B	For 8.5 Ton	Nos.	189750.00	7500.00	197250.00
C	For 11 Ton	Nos.	247500.00	10000.00	257500.00
D	For 16.5 Ton	Nos.	346500.00	15000.00	361500.00
E	For 22 Ton	Nos.	409200.00	20000.00	429200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-5 / FLOOR MOUNTED PACKAGED A.C. UNITS					
8-5-1.	Providing installing, commissioning, testing approved make air cooled package units of following capacity complete with hermetically sealed scroll compressor Of following TR @ 400 CFM(minimum) per TR capacity with maximum noise level 60 dB from 1 mtr from indoor unit and remote located condensing unit and evaporating unit with inter connecting copper refrigerant piping up to 10 RMT. comprising of following (A) The condensing unit complete with condenser fan motor, & the condenser which effectively achieves heat rejection by utilizing cooling medium as air, in fan and cooling type condenser (B) The evaporating unit complete with Scroll compressor DX coil evaporator, centrifugal blower, blower motor, starter, complete with first charge of Eco Friendly Green gas and oil with refrigerant piping, inter connecting indoor and outdoor unit and drain canvass connection & condenser M.S. structure with red oxide and/or RCC Pedestal and approved paints				
	[A] For 5.5 TR	Nos.	128700.00	27000.00	155700.00
	[B] For 8.5 TR	Nos.	168300.00	30000.00	198300.00
	[C] For 8.75 TR	Nos.	189090.00	36000.00	225090.00
	[D] For 11 TR	Nos.	227700.00	45000.00	272700.00
	[E] For 16.5 TR	Nos.	336600.00	50000.00	386600.00
	[F] For 22 TR	Nos.	396000.00	55000.00	451000.00
	[G] For 24TR	Nos.	465300.00	56000.00	521300.00
	[H] For 36TR	Nos.	693000.00	60000.00	753000.00
	[I] For 48 TR	Nos.	792000.00	65000.00	857000.00
	[J] For 60 TR	Nos.	1029600.00	72000.00	1101600.00
	[K] For 80TR	Nos.	1287000.00	90000.00	1377000.00
8-5-2.	Providing installing, commissioning, testing approved make water cooled package units of following capacity complete with hermetically sealed scroll compressor Of following TR @ 400 CFM(minimum) per TR capacity with maximum noise level 60 dB from 1 mtr from indoor unit comprising of following The unit complete with Scroll compressor, Shell & Tube type condenser, DX coil evaporator, centrifugal blower, blower motor, micro processor based controller, complete with first charge of Eco Friendly Green gas and oil with refrigerant piping, drain connection, canvass connection etc.				
A	For 5.5 TR	Nos.	148500.00	20000.00	168500.00
B	For 11 TR	Nos.	262350.00	30000.00	292350.00
C	For 16.5 TR	Nos.	383350.00	35000.00	418350.00
D	For 26TR	Nos.	445500.00	45000.00	490500.00
E	For 39TR	Nos.	643500.00	55000.00	698500.00
F	For 52 TR	Nos.	841500.00	62000.00	903500.00
G	For 85 TR	Nos.	1356300.00	72000.00	1428300.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION - 8 - 6 VARIABLE REFRIGERANT VOLUME SYSTEM					
note	1. consider 1 H.P=0.8 TR for estimation				
	2. for heating requirement, add 5% more in item no.8-6-1				
	3. minimum two compressors for above or equal 12 HP modules in design while approval.				
OUTDOOR UNIT					
8-6-1.	Supply Installation, Testing & Commissioning of modular type Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), microprocessor based Controller, top discharge type condensing unit(s), with R410 A Refrigerant (Or Eco Friendly Green Gas if any), vibration isolators, with suitable foundation, MS Stand for Unit with necessary paint etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5. (Design should be got approval before execution from engineer in charge)	Per Hp	22350.00	1250.00	23600.00
INDOOR UNIT-CASSETTE TYPE					
8-6-2.	Supply, installation, testing and commissioning of following minimum capacity 4-way/2 way/radial flow as per approval VRF/Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply, max noise level 60dB @ 400 cfm per TR(minimum) complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature fresh air provision compatible for Remote Operation System				
(A)	0.8 TR	Nos.	25600.00	1500.00	27100.00
(B)	1 TR	Nos.	27600.00	1500.00	29100.00
(C)	1.2 TR	Nos.	28000.00	1500.00	29500.00
(D)	1.6 TR	Nos.	28800.00	1500.00	30300.00
(E)	2 TR	Nos.	29100.00	1700.00	30800.00
(F)	2.4 TR	Nos.	29750.00	1700.00	31450.00
(G)	2.8 TR	Nos.	30000.00	2000.00	32000.00
(H)	3.2 TR	Nos.	30500.00	2200.00	32700.00
(I)	3.6 TR	Nos.	30700.00	2500.00	33200.00
(J)	4 TR	Nos.	31000.00	3000.00	34000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
INDOOR UNIT-HIGH WALL TYPE					
8-6-3.	Supply, installation, testing and commissioning of following minimum capacity VRV High wall type Indoor unit equipped with washable synthetic media pre-filter, fan section with noise level maximum 60 dB @min 400 cfm /dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, outer cabinet, cord less remote control, drain pan, necessary accessories etc., suitable for operation on 230 V $\pm$ 10%, 50 Hz, single phase AC supply, complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
(A)	0.8 TR	Nos.	17500.00	800.00	18300.00
(B)	1.1 TR	Nos.	17800.00	800.00	18600.00
(C)	1.3 TR	Nos.	19100.00	1000.00	20100.00
(D)	1.65 TR	Nos.	19500.00	1100.00	20600.00
(E)	2 TR	Nos.	20500.00	1500.00	22000.00
INDOOR UNIT-DUCTABLE TYPE					
8-6-4.	Supply, installation, testing and commissioning of following minimum capacity and external static pressure VRV ceiling mounted ductable type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, corded remote control, outer cabinet, vibration isolators, drain pan, other necessary supports etc., suitable for operation on single phase AC supply 230 V $\pm$ 10%, 50 Hz complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
	Low static ductable units (minimum 25 pascal external static pressure)				
(A)	0.6 TR	Nos.	24500.00	1200.00	25700.00
(B)	0.8 TR	Nos.	25600.00	1200.00	26800.00
(C)	1 TR	Nos.	26900.00	1500.00	28400.00
(D)	1.3 TR	Nos.	29750.00	1500.00	31250.00
(E)	1.4 TR	Nos.	31500.00	1700.00	33200.00
(F)	1.6 TR	Nos.	32000.00	1800.00	33800.00
	Mid Static Ductable units (minimum 45 pascal external static pressure)				
(A)	1.8 TR	Nos.	34500.00	2000.00	36500.00
(B)	2 TR	Nos.	35000.00	2000.00	37000.00
(C)	2.3 TR	Nos.	36750.00	2400.00	39150.00
(D)	2.6 TR	Nos.	37250.00	2500.00	39750.00
(E)	2.8 TR	Nos.	38750.00	2600.00	41350.00
(F)	3.4 TR	Nos.	41000.00	3000.00	44000.00
(G)	4 TR	Nos.	43500.00	3500.00	47000.00



Item No.	Description	Unit	Cost of Materials	Cost of Labour	Total
	High Static Ductable units (minimum 110 pascal external static pressure)				
(A) 6.5 TR		Nos.	75000.00	4000.00	79000.00
(B) 7.1 TR		Nos.	78000.00	4500.00	82500.00
(C) 8 TR		Nos.	82000.00	5000.00	87000.00

COPEER REFRIGERANT PIPING

NOTE:- 1) The Copper Piping & Piping Circuit should be with Minimum Number of joints, which shall be attained by : (1) Using One End Expanded Tubes
(2) Bending the tubes instead of using elbow joints wherever 90 degree bending is required.
(3) Piping should be routed at site in such a manner, that brazed joints in the refrigeration piping are kept to a minimum.
(4) The makes of tube fittings shall be same as that of tubes.
(5) The thickness of fittings used shall be same as that of the pipe.

8-6-5.	Supply, Installation, testing and commissioning including vacuumization and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-0 tubular insulation/with Class-0 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 with necessary refrigerant joint as required :				
(A)	6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	200.00	45.00	245.00
(B)	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	280.00	50.00	330.00
(C.)	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	390.00	65.00	455.00
(D)	15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	510.00	75.00	585.00
(E)	19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	605.00	100.00	705.00
(F)	22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	740.00	120.00	860.00
(G)	25.4 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	880.00	140.00	1020.00
(H)	28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	925.00	160.00	1085.00
(I)	31.8 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	955.00	180.00	1135.00
(J)	34.9 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	985.00	210.00	1195.00
(K)	38.1 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1000.00	240.00	1240.00
(L)	41.27 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1050.00	260.00	1310.00

Control Cables and Wires

8-6-6.	Supply installation testing commissioning Shielded Shielded Control Cables for VRV System with necessary ISI mark Medium class rigid PVC pipes with necessary accessories with termination in machine and control equipments.				
a	2C X 1.5 Sq mm Shielded Armoured	Mtr.	115.00	5.00	120.00
b	3C X 1.5 Sq mm Shielded Armoured	Mtr.	125.00	7.00	132.00
c	4C X 1.5 Sq mm Shielded Armoured	Mtr.	165.00	10.00	175.00
8-6-7	Central Control System				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
A	Cord type remote control with thermostat, LED Display and internal wiring for Cassette, FCU & CSU	Nos.	1550.00	200.00	1750.00
B	Central wired Remote Control System	Per HP	1500.00	150.00	1650.00
SECTION - 8-8 AIR HANDLING UNITS					
NOTE	While Designing Chilled Water Central Air Conditioning Plant - Chillers, Primary pumps, Secondary pumps, and High Side Equipments will be getting from market and chose latest or appropriate technology for execution, and rate is as per current market.				
	* FOR CONVERTING CFM INTO CMH, APPLY FACTOR OF 1.70				
	*add 10% more for AHU with DX type in item no.8-8-1 to 8-8-3				
8-8-1.	Supplying, erecting & commissioning approved make Horizontal Ductable type/Ceiling suspended chilled water air handling unit made of 25mm thick. consisting of preplasticized G.I. casing of 0.8mm thick outer layer and 0.8mm inside layer with polyethylene foam (PUF) insulation factory injected between them by injection moulding machine complete with following capacities complete with multiple variable speed suitable static pressure centrifugal blower, 4 rows cooling coil, filter section with 15-micron synthetic non woven pre filters with GI sheet housing duly powder coated, belt/direct driven drive package with TEFC drive motor suitable for 415+/-10% volts, 50Hz, 3 phase A.C. supply, stainless steel drain pan with sandwich PUF insulation & drain connection, room - thermostats, control panel etc.				
(A)	1200 CFM & 3 TR capacity	Nos.	39600.00	3600.00	43200.00
(B)	2200 CFM & 5 TR capacity	Nos.	49500.00	3600.00	53100.00
(C)	3200 CFM & 7.5 TR capacity	Nos.	59400.00	4500.00	63900.00
(D)	4500 CFM & 10 TR capacity	Nos.	79200.00	4500.00	83700.00
8-8-2.	Supply, installation, Testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 band GSS-PVC eliminators, cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 6 row deep, filter section with 50mm thick metal viscous/washable synthetic type air pre-filters, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 ± 10% volts, 50Hz, 3 Phase AC supply with suitable variable frequency drive control panel, drain connections, stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.) and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve wherever required, necessary vibration isolation arrangement, etc. complete as per specification, and of following capacities:			0	
(A)	2500 CFM	Set	98906.00	6900.00	105806.00
(B)	3000 CFM	Set	116360.00	8100.00	124460.00
(C)	4000 CFM	Set	130757.00	9100.00	139857.00
(D)	5000 CFM	Set	161985.00	11340.00	173325.00
(E)	6000 CFM	Set	186811.00	13100.00	199911.00
(F)	7000 CFM	Set	212311.00	14800.00	227111.00
(G)	8000 CFM	Set	228038.00	16000.00	244038.00
(H)	9000 CFM	Set	258480.00	18000.00	276480.00
(I)	10000 CFM	Set	273533.00	19100.00	292633.00
(J)	11000 CFM	Set	302290.00	21100.00	323390.00
(K)	12000 CFM	Set	324757.00	22700.00	347457.00
(L)	14000 CFM	Set	356111.00	24900.00	381011.00
(M)	17000 CFM	Set	376079.00	26300.00	402379.00
(N)	20000 CFM	Set	416824.00	29200.00	446024.00
(O)	23000 CFM	Set	477673.00	33400.00	511073.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-8-3.	Supply, installation, testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre-foamed G.I. casing of thickness 0.8mm outside layer and 0.3 mm inside layer with polyurethane foam (PUF) insulation. factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators, cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 4 row deep, filter section with 50mm thick metal viscous/washable synthetic type air prefilter, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 ± 10% volts, 50Hz, 3 Phase AC supply with suitable variable frequency drive control panel, drain connections, stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.) and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve whenever required, necessary vibration isolation arrangement etc. complete as per specification and of following capacities.				
(A)	2500 CFM	Set	87157.00	6100.00	93257.00
(B)	3000 CFM	Set	102301.00	7100.00	109401.00
(C)	4000 CFM	Set	114149.00	8000.00	122149.00
(D)	5000 CFM	Set	141244.00	9800.00	151044.00
(E)	6000 CFM	Set	165243.00	11500.00	176743.00
(F)	7000 CFM	Set	184977.00	13000.00	197977.00
(G)	8000 CFM	Set	199954.00	14000.00	213954.00
(H)	9000 CFM	Set	227251.00	16000.00	243251.00
(I)	1000 CFM	Set	239159.00	16700.00	255859.00
(J)	11000 CFM	Set	261677.00	18300.00	279977.00
(K)	12000 CFM	Set	283755.00	19800.00	303555.00
(L)	14000 CFM	Set	306850.00	18800.00	325650.00
(M)	17000 CFM	Set	344316.00	24100.00	368416.00
(N)	20000 CFM	Set	381575.00	26700.00	408275.00
(O)	23000 CFM	Set	437196.00	30600.00	467796.00
8-8-4.	Rigid UPVC drain pipe of 10 Kg/cm ² rating with 9 mm thick nitrile rubber insulation.				
(A)	50 mm dia.	Rmt.	90.00	25.00	115.00
(B)	40 mm dia.	Rmt.	70.00	20.00	90.00
(C)	32mm dia.	Rmt.	50.00	20.00	70.00
(D)	25 mm dia.	Rmt.	55.00	25.00	80.00
(E)	19 mm dia.	Rmt.	35.00	25.00	60.00
8-8-5.	Supplying, installing & commissioning approved make Horizontal ceiling suspended or vertical floor mounted fan coil unit with thermostats expansion valve comprising main features of following specification (a) Blowers: - The centrifugal blowers having forward curves, driven by extended motor shafts. The heavy gauge M.S. scrolls controls air pattern shall be provided to avoid turbulence & noise. The motor shall be 3 speed permanent split condenser types with manual speed selection.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b)Cooling Coils :- Made of 3/4 row deep drawn copper tubing with aluminium fins with drain connections. Water inlet & outlet connection shall be provided with a flare nut for connection to the control valve. The coils shall be furnished with left or right hand connections. (c)Cabinet: - The panels shall be reinforced & the bottom panel shall be insulated with 15mm thick thermocol to prevent sweating.				
	(d) Drain Pans: - Drain Pans shall be liberally sized, insulated & extends full width of coils & return bends to catch moisture, with provision of two drains. (e)Air vent :- A twist of spanner opens the standard manual air vent to purge the air out of the coil. The FCU comprising fan grills & the entire body painted with powder coating & aesthetically mounted as per requirement with necessary alteration to civil works with finishing complete @350 CFM PER TR (MINIMUM) ,MAX NOISE LEVEL 50-60 dB of following size.				
(A)	(i) 1 TR Capacity FCU	Nos.	7920.00	1000.00	8920.00
(B)	(ii) 1.5 TR Capacity FCU	Nos.	9900.00	1000.00	10900.00
(C.)	(iii) 2 TR capacity FCU	Nos.	11880.00	1000.00	12880.00
(D)	(iv)2.5 TR Capacity FCU	Nos.	14850.00	1000.00	15850.00
SECTION 8 - 9					
8-9-1.	Supplying & fixing 50mm thick TF quality expanded polystyrene for underdeck insulation on slab/wall /shaft exposed to sun/atmosphere as per specifications.	Sq.Mtr	330.00	85.00	415.00
8-9-2.	providing and erecting Highly flexible, fibre free insulation laminated with an embossed silver-colour foil for enhanced aesthetic and mechanical protection. The closed cell insulation material with superior performance in fire safety and maintenance is used for the protection of HVAC ducts, especially in the clean room conditions of pharmaceuticals industries. Key Features • Pre-covered insulation with excellent aesthetics • Low Thermal Conductivity, $10^{\circ}\text{C} \leq 0.035 \text{ W/(m}\cdot\text{K)}$ • Excellent Water vapour Diffusion Resistance, $\mu \geq 60,000$ • Easy to clean and maintain • Class 0 fire classification to BS 476 part 6 & 7 • Durable and high resistance to mechanical abuse	Sq.Mtr	600.00	85.00	685.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
INSULATION ON EXISTING PIPE					
8-9-2.	Supplying, laying/ fixing, testing and commissioning of following thickness resin bonded fiber glass pipe section insulation having density 80 kg/cum or mineral wool (non combustible) having density of 144 Kg/ cu m duly covered with a layer of 120 gm/sq.m polythene sheet (vapour barrier) on existing pipe and finally applying 0.63mm aluminium sheet cladding complete with type 3, grade 1 roofing felt strip (as per IS:1322 as amended up to date) at joints etc. as per specifications and as required.				
(A)	75 mm	sq mtr	2790.00	425.00	3215.00
(B)	65 mm	sq mtr	2535.00	375.00	2910.00
(C)	50mm	sq mtr	2455.00	350.00	2805.00
(D)	40mm	sq mtr	2252.00	320.00	2572.00
(E)	25mm	sq mtr	1802.00	300.00	2102.00
SECTION 8 - 10					
INSULATED CHILLED WATER PIPING (Nitrile rubber insulation)					
8-10-1.	Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastometric nitrile rubber of minimum 45 Kg / cu m density, thermal conductivity 0.037 W/MK or better at 20 deg mean temperature class 'O' insulation applied by suitable adhesive complete including repairing of damage to building etc. as per specifications and as required complete in all respect. Note:- The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				
(A)	400mm dia (32 mm thick insulation)	Mtr	11743.00	1500.00	13243.00
(B)	350mm dia (32 mm thick insulation)	Mtr	7332.00	1200.00	8532.00
(C)	300mm dia. (32 mm thick insulation)	Mtr	6276.00	1000.00	7276.00
(D)	250mm dia (32 mm thick insulation)	Mtr	5388.00	900.00	6288.00
(E)	200mm dia (32 mm thick insulation)	Mtr	4367.00	850.00	5217.00
(F)	150mm dia. (32 mm thick insulation)	Mtr	2915.00	800.00	3715.00
(G)	125mm dia. (32 mm thick insulation)	Mtr	2590.00	800.00	3390.00
(H)	100mm dia. (32 mm thick insulation)	Mtr	2061.00	750.00	2811.00
(I)	80mm dia. (32 mm thick insulation)	Mtr	1554.00	700.00	2254.00
(J)	65mm dia (32 mm thick insulation)	Mtr	1247.00	700.00	1947.00
(K)	50mm dia (32 mm thick insulation)	Mtr	1111.00	650.00	1761.00
(L)	40mm dia. (32 mm thick insulation)	Mtr	919.00	650.00	1569.00
(M)	32 mm dia (19 mm thick insulation)	Mtr	751.00	650.00	1401.00
(N)	25 mm dia (19 mm thick insulation)	Mtr	625.00	600.00	1225.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
INSULATED CHILLED WATER PIPING (expanded polystyrene insulation)					
8-10-2.	Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping plumbing inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with fire retardant quality expanded polystyrene moulded pipe section of density 20 kg/cu.m after a thick coat of cold setting adhesive (CPRX compound) wrapping with 500g polythene faced hessian and finally applying 0.63mm aluminium sheet cladding complete with type3, grade 1 roofing felt strip(as per IS:1322 as amended up to date) at joints repairing of damage to building etc. as per specifications and as required complete in all respect. Note:- The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				
(A)	400mm dia.(75 mm thick insulation)	Mtr	13020.00	1500.00	14520.00
(B)	350 mm dia.(75 mm thick insulation)	Mtr	8614.00	1200.00	9814.00
(C)	300 mm dia.(75 mm thick insulation)	Mtr	7475.00	1000.00	8475.00
(D)	250mm dia.(75 mm thick insulation)	Mtr	6248.00	900.00	7148.00
(E)	200mm dia.(75 mm thick insulation)	Mtr	5301.00	850.00	6151.00
(F)	150mm dia.(75 mm thick insulation)	Mtr	3452.00	800.00	4252.00
(G)	125mm dia.(50mm thick insulation)	Mtr	2904.00	800.00	3704.00
(H)	100mm dia.(50mm thick insulation)	Mtr	2517.00	750.00	3267.00
(I)	80mm dia.(50mm thick insulation)	Mtr	2010.00	700.00	2710.00
(J)	65mm dia.(50mm thick insulation)	Mtr	1717.00	700.00	2417.00
(K)	50mm dia.(50mm thick insulation)	Mtr	1455.00	650.00	2105.00
(L)	40mm dia.(50mm thick insulation)	Mtr	1273.00	650.00	1923.00
(M)	32 mm dia.(50mm thick insulation)	Mtr	1117.00	650.00	1767.00
(N)	25 mm dia.(50mm thick insulation)	Mtr	1022.00	600.00	1622.00
8-10-3.	Supplying, laying, fixing, testing and commissioning of following thickness closed cell elastomeric nitrile rubber of class 'O' applied by suitable adhesive, as per specifications and as required complete in all respect.				
(A)	32mm	Sq.Mtr.	1034.00	200.00	1234.00
(B)	19mm	Sq.Mtr.	610.00	150.00	760.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-4.	Supplying, laying/ fixing of following thickness insulation with fire retardant quality expanded polystyrene-moulded pipe section of density 20 kg/cu.m after a thick coat of cold setting adhesive (CPRX compound) wrapping with 500g polythene faced hessian and finally applying 0.63mm aluminium sheet cladding complete with type 3 grade 1 roofing felt strip (as per IS:1322 as amended up to date) at joints repairing etc. as per specifications and as required complete in all respect..				
(A)	75mm	Sq.Mtr.	1233.00	200.00	1433.00
(B)	50mm	Sq.Mtr.	1112.00	150.00	1262.00
INSULATED VALVES					
8-10-5.	Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.				
8-10-5(A).	providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubber Seal & O- Ring PN 16 pressure rating for chilled water/hot water circulation as specified				
	200 mm dia	Nos.	12838.00	800.00	13638.00
	150mm dia.	Nos.	6556.00	500.00	7056.00
	125mm dia.	Nos.	5861.00	400.00	6261.00
	100mm dia.	Nos.	5169.00	300.00	5469.00
	80mm dia.	Nos.	3691.00	200.00	3891.00
	65mm dia.	Nos.	3436.00	200.00	3636.00
	50mm dia.	Nos.	3167.00	150.00	3317.00
	40mm dia.	Nos.	2925.00	150.00	3075.00
8-10-6.	providing and erecting BALANCING VALVE WITH BUILT IN MEASURING FACILITY with C I body flanged construction with EPDM coated disc with long pitch with protected out pipe insulation & PN 16 pressure rating for chilled / hot water circulation as specified.				
(A)	200 mm dia	Nos.	52635.00	800.00	53435.00
(B)	150mm dia.	Nos.	26600.00	500.00	27100.00
(C.)	125mm dia.	Nos.	19996.00	400.00	20396.00
(D)	100mm dia.	Nos.	15223.00	300.00	15523.00
(E)	80mm dia.	Nos.	10360.00	200.00	10560.00
(F)	65 mm dia	Nos.	9058.00	200.00	9258.00
(G)	50mm dia.	Nos.	7379.00	150.00	7529.00
(H)	40 mm dia	Nos.	4522.00	150.00	4672.00
8-10-7.	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified.				
(A)	200 mm dia	Nos.	13504.00	1550.00	15054.00
(B)	150mm dia.	Nos.	8296.00	950.00	9246.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
(C.)	125mm dia.	Nos.	7122.00	800.00	7922.00
(D)	100 mm dia	Nos.	5494.00	650.00	6144.00
(E)	80mm dia.	Nos.	3818.00	450.00	4268.00
(F)	65 mm dia	Nos.	3507.00	400.00	3907.00
8-10-8.	providing and erecting Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				0
(A)	200mm dia	Nos.	28872.00	2000.00	30872.00
(B)	150mm dia.	Nos.	14758.00	1050.00	15808.00
(C.)	125mm dia.	Nos.	13912.00	980.00	14892.00
(D)	100 mm dia	Nos.	9821.00	680.00	10501.00
(E)	80 mm dia	Nos.	7123.00	500.00	7623.00
(F)	65mm dia.	Nos.	6207.00	450.00	6657.00
(G)	50mm dia.	Nos.	5033.00	350.00	5383.00
(H)	40mm dia.	Nos.	3565.00	250.00	3815.00
8-10-9.	Providing and fixing in position the Industrial type pressure gauges with gun metal / brass valves complete as required	Nos.	1094.00	100.00	1194.00
8-10-10.	Providing & fixing in position the mercury in glass industrial type thermometers.	Nos.	957.00	100.00	1057.00
CONDENSER WATER PIPE					0
8-10-11.	Supplying, fixing, testing and commissioning of condenser water pipes of following sizes of MS 'C' class along with necessary clamps, vibration isolators and fittings such as bends, tees etc. but excluding valves, strainers, gauges etc. adequately supported on rigid supports duly painted/buried in ground excavation and refilling etc. as per specification and as required complete in all respect. Note:- The Pipes size 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. And from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				0
(A)	300mm dia.	Mtr.	5270.00	900.00	6170.00
(B)	250 mm dia	Mtr.	4401.00	850.00	5251.00
(C.)	200mm dia.	Mtr.	3705.00	800.00	4505.00
(D)	150mm dia.	Mtr.	2385.00	750.00	3135.00
(E)	125mm dia.	Mtr.	2087.00	750.00	2837.00
(F)	100mm dia.	Mtr.	1784.00	700.00	2484.00
VALVES WITHOUT INSULATION					0
8-10-12.	Supplying, fixing, testing and commissioning of following valves, gauges and strainers for condenser water circulation as per specifications.				
8-10-12(A)	providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.				
(A)	200mm dia.	Nos.	11531.00	1150.00	12681.00
(B)	150mm dia.	Nos.	5442.00	550.00	5992.00
(C.)	125mm dia	Nos.	4797.00	480.00	5277.00
(D)	100mm dia.	Nos.	4120.00	400.00	4520.00
(E)	80mm dia.	Nos.	3015.00	300.00	3315.00
(F)	65mm dia.	Nos.	2837.00	290.00	3127.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
(G)	50mm dia.	Nos.	2544.00	250.00	2794.00
(H)	40mm dia.	Nos.	2385.00	240.00	2625.00
8-10-13.	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.				0
(A)	200mm dia.	Nos.	12181.00	1200.00	13381.00
(B)	150mm dia.	Nos.	7171.00	700.00	7871.00
(C.)	125mm dia.	Nos.	6147.00	620.00	6767.00
(D)	100mm dia.	Nos.	4581.00	450.00	5031.00
(E)	80mm dia.	Nos.	3139.00	300.00	3439.00
(F)	65mm dia.	Nos.	2878.00	290.00	3168.00
8-10-14.	Supplying, fixing, testing and commissioning of following sizes Motorized Butter fly Valve with CI Body, SS Disc, O - ring and minimum PN-16 pressure rating, conforming to BS 5155, IS 13095, with IP-55 actuator, capable of accepting upto 10V DC, and upto 20mA electric signal and providing similar transduced feedback output to control system as required.				0
(A)	350mm dia.	Nos.	104962.00	10500.00	115462.00
(B)	300mm dia.	Nos.	94059.00	9400.00	103459.00
(C.)	250mm dia.	Nos.	67718.00	6800.00	74518.00
(D)	200mm dia.	Nos.	51795.00	5100.00	56895.00
(E)	150mm dia.	Nos.	40154.00	4000.00	44154.00
(F)	125mm dia.	Nos.	39809.00	3950.00	43759.00
(G)	100mm dia.	Nos.	39070.00	3900.00	42970.00
(H)	80mm dia.	Nos.	16705.00	1650.00	18355.00
(I)	65mm dia.	Nos.	16544.00	1620.00	18164.00
(J)	50mm dia.	Nos.	16206.00	1600.00	17806.00
8-10-15.	Supply, Installation, Testing and Commissioning of following sizes electronic, self-balancing, pressure independent type dynamic balancing valve with integrated 2 way modulating control valve in a single body. The actuator shall be capable of accepting upto 10V DC and upto 20mA electric signal and shall provide similar transduced feedback output to control system. Maximum close off pressure shall not be less than 6 Bar for upto 50 mm valves and 7 Bar for 65 mm & above. Valves should have pressure rating of 25 Bar minimum.				0
(A)	150mm dia.	Nos.	151383.00	15000.00	166383.00
(B)	125mm dia.	Nos.	137826.00	13800.00	151626.00
(C.)	100mm dia.	Nos.	108454.00	10800.00	119254.00
(D)	80mm dia.	Nos.	64151.00	6400.00	70551.00
(E)	65mm dia.	Nos.	50405.00	5000.00	55405.00
(F)	50mm dia.	Nos.	32649.00	3200.00	35849.00
(G)	40mm dia.	Nos.	29785.00	2900.00	32685.00
(H)	32mm dia.	Nos.	16038.00	1600.00	17638.00
(I)	25mm dia.	Nos.	15084.00	1500.00	16584.00
(J)	20mm dia.	Nos.	10997.00	1100.00	12097.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8 - 11 / DUCTING, GRILLS, DIFFUSER AND INSULATION					0
8-11-1.	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				0
(A)	Thickness 0.63 mm sheet (22 Gauge)	Sq.Mtr.	983.00	200.00	1183.00
(B)	Thickness 0.80 mm sheet (20 Gauge)	Sq.Mtr.	1154.00	220.00	1374.00
(C.)	Thickness 1.00 mm sheet (18 Gauge)	Sq.Mtr.	1273.00	240.00	1513.00
(D)	Thickness 1.25 mm sheet (16 Gauge)	Sq.Mtr.	1677.00	300.00	1977.00
8-11-2.	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				0.00
(A)	Thickness 0.63 mm sheet (22 Gauge)	Sq.Mtr.	942.00	200.00	1142.00
(B)	Thickness 0.80 mm sheet (20 Gauge)	Sq.Mtr.	1104.00	220.00	1324.00
(C.)	Thickness 1.00 mm sheet (18 Gauge)	Sq.Mtr.	1458.00	240.00	1698.00
(D)	Thickness 1.25 mm sheet (16 Gauge)	Sq.Mtr.	1615.00	300.00	1915.00
8-11-2 (E)	Pre-Insulated Duct & Accessories Supply installation balancing and commissioning of pre insulated factory fabricated PIR (polyisocyanurate foam panel or board) ducts made up of CNC machine cut for internal use. The thickness of board shall be 20mm density of foam shall be 45 kg/m ³ thermal conductivity 0.020W/m.K. The aluminium foil shall be 80µ thick and provided on both sides and the foil shall be embossed. All accessories adhesive sealant and tape used in duct fabrication should be same as panel manufacturer erected with necessary supports.	Sq.Mtr.	1350.00	150.00	1500.00
8-11-3.	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.	6500.00	1100.00	7600.00
8-11-4.	Supply, installation, testing and commissioning of Motorized (ON-OFF Type) duct mounted GI volume control damper with enthalpy sensor and necessary control wire (minimum 1.5 sq-mm) for integration within AHU room				0.00
(A)	Damper	Sq.Mtr.	7951.00	900.00	8851.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
(B)	Actuator	Nos.	7960.00	900.00	8860.00
8-11-5.	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	Sq.Mtr.	8480.00	900.00	9380.00
8-11-6.	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	Sq.Mtr.	5507.00	900.00	6407.00
8-11-7.	Supplying, fixing testing commissioning of supply air diffuser of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core and size & shape as per site requirement and approved design.	Sq.Mtr.	11363.00	900.00	12263.00
8-11-8.	Supplying, fixing testing commissioning of Return air diffuser of powder coated aluminium without volume control dampers with anti smudge ring & removable core and size & shape as per site requirement and approved design.	Sq.Mtr.	7559.00	900.00	8459.00
8-11-9.	Supply, installation, testing & commissioning of thermal insulated flexible duct of following sizes duly supported at regular interval as per site requirement etc. complete as required as per specifications. (A) 200 mm dia.	Mtr	538.00	90.00	628.00
8-11-10.	Supplying, Fixing, testing and commissioning of fire dampers in supply air duct/main branch and return air path as and where required of required sizes l/c control wiring, the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.				0.00
(A)	Fire damper	Sq. Mtr.	9883.00	900.00	10783.00
(B)	Actuator	Nos.	9212.00	900.00	10112.00
8-11-11.	Supply and fixing of acoustic lining of supply air duct and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m ³ , with 25 mm X 25 mm GI section of 1.25 mm thick, at 600 mm centre to centre covered with Reinforced Plastic tissue paper and 0.5 mm thick perforated aluminum sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	Sq. Mtr.	647.00	85.00	732.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-11-12.	Supplying, fixing acoustic lining on wall and ceiling of AHU rooms with 50mm thick, density 32 kg/cu.m resin bonded glass fiber insulation friction fixed in 610mm x 610 mm frame work made of 25X50X50X50X25 mm made out of 0.6mm thick GI sheet U shaped channel and covered with reinforced fiber glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as required and as per specifications.	Sq.Mtr.	1139.00	180.00	1319.00
8-11-13.	Supplying and fixing of following thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self adhesive nitrile rubber tape insulation complete as per specifications and as required.				0.00
	19mm	Sq.Mtr.	697.00	90.00	787.00
	25mm	Sq.Mtr.	896.00	90.00	986.00
8-11-14.	Supplying and fixing 50 mm thick aluminium foil faced resin bonded fibre glass insulation (on duct) of density 24 kg/cu.m or mineral wool insulation(non combustible) of density 44 kg/cu m after applying two coats of cold setting adhesive (CPRX compound) sealing all joints with self adhesive aluminium tape & covering with 0.63mmx19mm GI wire mesh netting butting all joints and laced with GI wire complete as per specifications and as required. (for indoor applications).	Sq.Mtr.	432.00	60.00	492.00
8-11-15.	Supplying and fixing 50mm thick aluminium foil faced resin bonded fibre glass insulation (on duct) of density 24 kg/cu.m or mineral wool insulation(non combustible) of density 44 kg/cum after applying two coats of cold setting adhesive (CPRX compound) sealing all joints with self adhesive aluminium tape & covering with 0.63mmx19mm GI wire mesh netting & butting all joints and laced with GI wire complete and finally covered with one layer of tar felt stuck with hot bitumen as per specifications and as required. (for outdoor applications)	Sq Mtr.	510.00	60.00	570.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 8-12 COOLING TOWER & MISC. ITEMS					
8-12-1.	Supplying, erecting & commissioning FRP cooling tower CTI certified with nominal capacity as mentioned below with necessary support of stand and minor civil work for foundation like P.C.C platform etc... (Mihir / Paharpur / Advance Vacun or Equivalent approved make)				
(A)	30 TR Capacity	Nos.	56650.00	2500.00	59150.00
(B)	40 TR Capacity	Nos.	68530.00	2500.00	71030.00
(C.)	50 TR Capacity	Nos.	79200.00	4500.00	83700.00
(D)	60 TR Capacity	Nos.	92070.00	4500.00	96570.00
(E)	80 TR Capacity	Nos.	110550.00	7500.00	118050.00
(F)	100 TR Capacity	Nos.	112750.00	10000.00	122750.00
(G)	120 TR Capacity	Nos.	137500.00	10000.00	147500.00
(H)	150 TR Capacity	Nos.	181500.00	15000.00	196500.00
(I)	200 TR Capacity	Nos.	220000.00	25000.00	245000.00
8-12-2.	carry out RCC Core cutting- up to 100 mm dia./200mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall .	Nos.	1000.00	200.00	1200.00
8-12-3.	carry out RCC Core cutting- up to 100 mm dia./300mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall .	Nos.	1300.00	250.00	1550.00
SECTION 8-13. WATER COOLERS					
8-13-1.	Providing and erecting water cooler having storage capacity 80Ltr. & cooling capacity 40 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15° C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating coil, thermostats, relay etc. complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel. "	Nos.	48000.00	300.00	48300.00
8-13-2.	Providing & erecting water cooler having storage capacity 150 Ltr. & cooling capacity 150 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15°C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating, coil, thermostats, relay etc.complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel.	Nos.	54000.00	500.00	54500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-13-3	Providing & Erecting full SS Body (SS 304) Split type water cooler having storage capacity 160 to 175 Ltr.(Tank SS 304) & Cooling capacity 150 ltr. Per hour @ an ambient temp of 35° C. The outlet temp. of the water should drop by 15°C within a hour. The water cooler should be comprising of hermetically sealed Reciprocating compressor with R134A, fan motor, Copper Condensing unit, water tank surrounded by evaporating coil, thermostats, relay etc. complete with necessary copper tube & Insulation, M.S Chanel Stand with Painting for water tank & M.S. Powder Coated Stand for Outdoor unit with Installation. With DPELCB and 4 Way DB Box with accessory Three core Cord for connection.	Nos.	58250.00	1500.00	59750.00
8-13-4	Supplying and erecting approved make water filter having outer body of tough polycarbonate with filter cartridge having filter to trap micro elements with coupling suitable for erection on pipe line.	Nos.	970.00	60.00	1030.00
8-13-5	Supplying and erecting water filter cum purifier with ultra violet technology. (Aquaguard / waterdoc model or equivalent symphony/ crystal/videocon model)	Nos.	5230.00	60.00	5290.00
8-13-6	Supplying & erecting 5 stage single reverse osmosis water purification system with M.S. powder coated frame, prefilter housing with 'O' ring presediment filter GAC filter, carbon filter suitable buster DC pump capacity 80 psi, mention with 40 psi inline type post carbon filter auto low & high pressure switches with following size of storage tank & LPH capacity & erected as directed with one year comprehensive maintenance guarantee.	Nos.			
	[A] 10 Ltr / Hr with 7 Ltr Plastic Pressure Tank	Nos.	8000.00	250.00	8250.00
	[B] 25 Ltr / Hr with 30 Ltr. S.S. Pressure Tank	Nos.	15000.00	250.00	15250.00
	[C] 50 Ltr / Hr with 250 psi 2 nos booster pump	Nos.	28000.00	500.00	28500.00
8-13-6	Supplying & erecting reverse osmosis (RO) water purification system with M.S. powder coated pedestal frame, prefilter housing carbon filter suitable buster DC pump, auto low & high pressure switches with following size of LPH capacity & erected as directed with one year comprehensive maintenance guarantee.				
	[D] 100 LPH with 3 phase Raw water pump of 500LPH @ 2.5kg/cm ² - (1No - Kirloskar /CRI/Lubi), Dual media filter 10"x54" - (1 No), Micron cartridge filter 20" x 2.5" (1No), High pressure pump 500LPH @ 10kg/cm ² - (1No - Shinge /CRI /Lubi), RO Membrane housing with RO membrane of 40"40 - (1No), RO pressure tube 4" x 1E - (1No), 0 - 1200LPH Rotameter -(2 Nos), with Recovery Rate 50%.	Nos.	75000.00	1000.00	76000.00

Total

5750.00

050.00

299.00

30.00

5.00

00.00

0.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[E] 200 LPH with 3 phase Raw water pump of 1000LPH @ 2.5kg/cm2 (1No - Kirloskar/CRI/Lubi), Dual media filter 10"x54" (1 No), Micron cartridge filter 20" x 2.5" - (1No), High pressure pump 1000LPH @ 10kg/cm2 - (1No - Shinge /CRI /Lubi), RO Membrane housing with RO membrane of 40"40 - (1 No), RO pressure tube 4" x 1E-(1No), 0-1200LPH Rotameter-(2 Nos). Recovery Rate 50%.	Nos.	90000.00	1200.00	91200.00
	[F] 500 LPH with 3 phase Raw water pump of 1000LPH @ 3.0 kg/cm2 (1No - Kirloskar /CRI /Lubi), Dual media filter 13"x54" - (1No), Micron cartridge filter 20" x 4.0"-1No, High pressure pump 1000LPH @ 11kg/cm2 - (1No - lubi/ Shinge/ CRI), RO Membrane housing with RO membrane of 40"40 - (2 Nos), RO pressure tube 4" x 2E -(1No), 0-2400 LPH Rotameter (2Nos), , Dosing pump 0 -6 LPH - (1 No), with 100 Ltr Dosing tank - (1 No), with Recovery Rate 50%.	Nos.	170000.00	1500.00	171500.00
	[G] 1000 LPH with 3 phase Raw water pump of 1700LPH @ 3.0 kg/cm2 (1No - Kirloskar/CRI/Lubi), Dual media filter 13"x54" - 1 No, Micron cartridge filter 20" x 4.0" - (1No), High pressure pump 1000LPH @ 11kg/cm2 - (1No - Kirloskar/CRI/Lubi), RO Membrane housing with RO membrane of 40"40 -(4 Nos), RO pressure tube 4" x 2E-(2Nos), 0 - 2400LPH Rotameter (2 Nos), Dosing pump 0 -6 LPH (1 No) with 100 Ltr Dosing tank - (1 No.), Recovery Rate 50%.	Nos.	210000.00	1800.00	211800.00
	[H] 2000 LPH with 3 phase Raw water pump of 3400LPH @ 3.0 kg/cm2 (1No - Kirloskar /CRI /Lubi), Dual media filter 18"x65" - 1 No., Micron cartridge filter 20" x 4.0" - (2Nos), High pressure pump 3400LPH @ 11kg/cm2 - (1No), Kirloskar/CRI/Lubi), RO Membrane housing with RO membrane of 80"40 - (2 Nos), RO pressure tube 8" x 2E - (1No), 0 - 3500LPH Rotameter - (2 Nos), Dosing pump 0 -6 LPH - (1 No), with 100 Ltr Dosing tank - (1 No), Recovery Rate 50%.	Nos.	325000.00	2000.00	327000.00
8-14 / Refrigerator					
8-14-1	Supplying approved make domestic refrigerator of 50/60 Ltr storage capacity, single phase minimum 3 star rating.	Nos.	7500.00	500.00	8000.00
8-14-2	Supplying approved make domestic refrigerator of 165 Ltr to 185 Ltr storage capacity, single phase minimum 3 star rating.	Nos.	14300.00	500.00	14800.00
8-14-3	Supplying approved make domestic refrigerator of 200 Ltr to 250 Ltr storage capacity, single phase minimum 3 star rating.	Nos.	19500.00	500.00	20000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-14-4	Supplying frost free domestic type double door approved make refrigerator having minimum 3 star rating with 285 Ltr to 330 Ltr storage capacity operating on single phase power supply.	Nos.	31500.00	750.00	32250.00
8-16-10	Supplying & Erecting floor mounted/ table top single phase 50Hz water dispenser with SS 304 food grade cold tank specification having three water tap of hot/cold/ambient water function, LED display with storage capacity from 2.5 Ltrs to 3.2 Ltrs, cooling capacity 2.5ltrs/hr, including refrigerant with 20ltrs refrigerant storage capacity compartment inclusive 1No.water topping bottle	Ea.	11000.00	300.00	11300.00
8-14-5	Providing & Erecting Deep Freezers effective and economical Solutions for safe storage of perishable foods.The range of hard - top deep freezers Technical Specification Gross Capacity 400 ltr., Temp. Range -18°C to -22°C, Power Supply 230Volts, Single phase, 50Hz,Refrigerant R134A, No of lids 2,Inner Cabinet Pre-painted GP Steel, Puf Thickness 60*60,Over all No of Baskets 01,Wheels/Legs Heavy Duty Castors.	Nos.	40000.00	800.00	40800.00
8-14-5	Providing & Erecting Chest Cooler (Bottle Cooler) effective and economical Solutions for safe storage (2° C to 8° C) of perishable foods.The range of hard - top Chest cooler Technical Specification Gross Capacity 500 ltr.,Temp.Power Supply 230 Volts, single phase, 50Hz, Refrigerant R134A, No of lids 2, Inner Cabinet Pre-painted GP Steel, SS 304 Inner Tank, Puf Thickness 60 * 60, No of Baskets 01,Wheels/Legs Heavy Duty	Nos.	45000.00	800.00	45800.00
SECTION 8-15 / POWER CAPACITORS,UPS & VOLTAGE STABILIZER					
8-15-1.	Supplying & erecting bank of all polypropylene condenser (APP type) with standard capacity of 2,3,5,7, 10,12.5 & 15 KVAR units of P.F. correction for operation on 3 phase 50 c/s, 400 /440V (+ / - 10%) with externally discharging resistance, earthing terminal & built on angle iron or channel iron frame work and provided with terminal cover box. Complete erected on provided iron bracket or on floor duly tested by license.	KVAR	665.00	15.00	680.00
8-15-2.	Supplying and erecting approved make surge/spike suppressor having 3 out lets of 1.8 AMP each complete erected.	Nos.	1440.00	60.00	1500.00
8-15-3.	Supplying and erecting approved make single phase servo controlled voltage stabilizer suitable for input voltage range 180/250V. And output voltage range 225/235V. A.C. complete erected.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
a	(A) 1.0 KVA	Nos.	6200.00	100.00	6300.00
b	(B) 3.0 KVA	Nos.	7850.00	100.00	7950.00
c	(C) 4.0 KVA	Nos.	8600.00	100.00	8700.00
8-15-4.	Supplying and erecting approved make Single phase power conditioners suitable for input voltage 180V / 280V, output voltage 220V (+ / - 10%) AC 50 Hz with electronic relays & component of keltron / philips make housed in sheet metal cabinet with epoxy powder coated, with high - low cut-off, time delay, voltmeter, selector switch, 5/15 A universal socket with range off				
a	(i) 1 KVA	Nos.	1500.00	20.00	1520.00
b	(ii) 2 KVA	Nos.	1930.00	20.00	1950.00
c	(iii) 3 KVA	Nos.	2970.00	30.00	3000.00
d	(iv) 4 KVA	Nos.	3120.00	30.00	3150.00
e	(v) 5 KVA	Nos.	3610.00	40.00	3650.00
8-15-5.	Supplying and erecting approved make online Un-interruptible Power Supply system comprising flat cum-boost charger, static Inverter & sealed maintenance free SMF batteries. The charger having operating capacity for input 160-270V AC & inverter having output 230V, 50 Hz Ac with 0.8 load power factor with battery, over/under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following power backup with MS painted batteries stand, 10% Overload capacity for momentary load.				
a	(A) 1 KVA with 1Hr Backup	Nos.	28000.00	1000.00	29000.00
b	(B) 2KVA with 1Hr Backup	Nos.	45800.00	1000.00	46800.00
c	(C) 3 KVA with 1Hr Backup	Nos.	79500.00	1500.00	81000.00
d	(D) 5 KVA with 1Hr Backup	Nos.	125000.00	2000.00	127000.00
	(E) 10 KVA 3 - phase with 1Hr Backup	Nos.	262000.00	2200.00	264200.00
	(F) 20 KVA 3 - phase with 1Hr Backup	Nos.	385000.00	2200.00	387200.00
	(G) 30 KVA 3 - phase with 1Hr Backup	Nos.	564000.00	2200.00	566200.00
8-15-6	Supplying, installing, testing & commissioning of digital pure sine wave INVERTOR of approved make single phase 230v complete with overload relay & necessary protection with following size of batteries, erected with battery terminal wire, copper lead wire to be connected to load with 10 Amp., 10 kA MCB.				
a	[A] 400 VA with battery 12V, 150 AH load up to 200 W	Nos.	9000.00	500.00	9500.00
b	[B] 560VA with battery 12V, 150 AH load up to 400W	Nos.	11500.00	500.00	12000.00
c	[C] 760VA with battery 12V, 150 AH Load up to 500W	Nos.	13000.00	500.00	13500.00
d	[D] 800VA with battery 12V, 150 AH load up to 600 W	Nos.	17000.00	500.00	17500.00
e	[E] 1400 VA with battery 12V, 150 AH load up to 1000 W	Nos.	21250.00	750.00	22000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
f	[F] 2000 VA with battery 12V, 150 AH load up to 1250 W	Nos.	25000.00	1000.00	26000.00
SECTION 8-16 WATER HEATERS					
8-16-1.	Supplying and erecting approved make instantaneous type water heater with 3ltr.capacity rust free container housed in ABS plastic body insulated with glass wool / puff insulation and 3 Kw heating elements,adjustable thermostat 30° C to 85° C with set to operate at 85° C (+/-6° C) auto reset indication lamps, thermal cut-out, safety valve fusible plug etc.				
	Cat.II	Nos.	3150.00	250.00	3400.00
	Cat.III	Nos.	3600.00	250.00	3850.00
	Premium Category	Nos.	4700.00	250.00	4950.00
8-16-2.	Supplying and erecting horizontal / vertical mounting type storage water heater with copper container housed in M.S./S.S. body insulated with glass wool / puff complete with heating elements,adjustable thermostats 30°C to 85°C, indicating lamp, safety valve, fusible plug, etc.complete erected with coach bolts, nuts, washers & cementation				
	(A) 10 Ltr. with 3 KW. heating element				
	Cat.II	Nos.	3542.00	300.00	3842.00
	Cat.III	Nos.	5690.00	300.00	5990.00
	Premium Category	Nos.	6830.00	300.00	7130.00
	(B)15 Ltr- with 2 /3K.W. heating element				
	Cat.II	Nos.	5700.00	300.00	6000.00
	Cat.III	Nos.	6350.00	300.00	6650.00
	Premium Category	Nos.	7800.00	300.00	8100.00
	(C)25 Ltr. with 2 KW. heating element				
	Cat.II	Nos.	7200.00	350.00	7550.00
	Cat.III	Nos.	7800.00	350.00	8150.00
	Premium Category	Nos.	9400.00	350.00	9750.00
	(D)35 ltr.with 1.5/2 KW. heating element				
	Cat.II	Nos.	8200.00	500.00	8700.00
	Cat.III	Nos.	9200.00	500.00	9700.00
	Premium Category	Nos.	10100.00	500.00	10600.00
	(E)50 Ltr. with 2 KW. heating element				
	Cat.II	Nos.	9200.00	550.00	9750.00
	Cat.III	Nos.	11100.00	550.00	11650.00
	Premium Category	Nos.	12400.00	550.00	12950.00
8-16-3.	Supplying and erecting chromium plated heavy duty brass valve for inlet pipe of water heater 15 mm dia.)	Nos.	150.00	30.00	180.00
8-16-4.	Supplying and erecting 15mm brass non-return valve for inlet pipe of storage water heater.	Nos.	200.00	30.00	230.00
8-16-5.	Supplying and erecting dead pressure releasing valve for storage type water heater with necessary materials.	Nos.	350.00	30.00	380.00
8-16-6.	Providing & erecting fibre reinforced PVC flexible pipe with brass locking nuts & washers & clips at both ends complete erected without leakage	RMT.	160.00	20.00	180.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-16-7	Supplying, installing, testing & commissioning of SOLAR WATER heating system as per prevailing IS code comprising of Solar flat locket collector, stainless steel hot water storage isolated tank with S.S. heat exchanger, absorber made of copper sheet & copper tube of following capacity in liter / day (LPD) with "B" size aluminium box collector with appropriate capacity electrical backup arrangement (Excluding inlet & outlet pipe lines)				
	[A] Capacity of 100 LPD	Nos.	20000.00	3000.00	23000.00
	[B] Capacity of 200 LPD	Nos.	40000.00	4000.00	44000.00
	[C] Capacity of 300 LPD	Nos.	55000.00	5000.00	60000.00
	[D] Capacity of 500 LPD	Nos.	90000.00	6000.00	96000.00
	[E] Capacity of 1000 LPD	Nos.	170000.00	7000.00	177000.00
8-16-8	Supplying & erecting resin bonded flap rock wool / glass wool with conductivity value 1.67 sq.mm per watt & to with stand the temp. to 100 degree centigrade C thickness 50mm with G I pipe of following size dia "B" class as per IS:1239. The plastic sheet to be used as covering of glass wool. Al. cladding besides other materials like chicken mesh, 26 G Al. Sheet shall be used for cladding the insulation pipe.				
	[A] for 20 mm dia pipe	Mtr	330.00	30.00	360.00
	[B] For 25 mm dia pipe	Mtr	390.00	50.00	440.00
	[C] for 32 mm dia pipe	Mtr	470.00	60.00	530.00
	[D] for 40 mm dia pipe	Mtr	550.00	70.00	620.00
	[E] for 50 mm dia pipe	Mtr	680.00	80.00	760.00
8-16-9	Supplying & erecting 12mm composite pipe manufactured from polythene material with destructed thermal expansion of 25×10^{-6} / degree kelvin (low expansion Co-efficient), resistant to freezing thermal conductivity 0.43 watt / (m degree kelvin) UV resistant suitable for continuous operating temperature of 95 degree centigrade & rated pressure of 6.9 kg / sq.cms at 850 degree centigrade. The kitemark pipe shall have chemical composition prepared as per ASTM F 1282-02 specifications (Pressure rating of 13.8 kg per sq.cms. & 11 KG per sq.cms at 60 degree) The pipe shall be duly jointed by comprising crimp fitted with internal as well as external end sealing arrangement.				
	[A] For 12 mm pipe	Mtr	195.00	20.00	215.00
	[B] For 16 mm pipe	Mtr	220.00	25.00	245.00
	[C] For 20 mm pipe	Mtr	310.00	30.00	340.00

CHAPTER - IX

Pump

CHAPTER - IX Pump

SECTION 9-1

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
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NOTE: The head and flow of pump is showing minimum values for getting best operating efficiency.

9-1-1-A.	Supplying and erecting Direct - On - Line Starter with 18 A. rating contactor and with 3.5 Amp. 18A range directly operated in totally insulated elegant enclosure for single phase operation up to 3 HP as per IS 13947 complete erected on P.W. Block with necessary connection.				
	Cat-II	Ea.	1788.00	90.00	1878.00
	Cat-III	Ea.	2148.00	90.00	2238.00
9-1-1-B	Supplying and erecting Direct On-line Electronics Starter with 2-5/4-10/8-14/10-16 Amp. Rating relay (variable current setting) directly operated in totally insulated elegant enclosure and 18 Amp. Rating power relay with start - stop button for single phase operation up to 3 HP as per complete erected on P.W. Block with following features. Low voltage cut off below 140 V High voltage cut off above 280 V Overload protection Indicating LEDs for motor on lv, hv & overload tripping. [Cat.II]	Ea	1620.00	90.00	1710.00
9-1-2-A.	Supplying and erecting Direct-on-line, Starter with 15A.rating contractor and with 4-14A. range, directly operated thermal overload relay in sheet steel enclosure for 3phase 415V.50 c/s. A.C. motor up to 7.5 H.P.complete erected on P.W. Block with necessary connection.				
	Cat-II	Ea.	1800.00	80.00	1880.00
	Cat-III	Ea.	2100.00	80.00	2180.00
9-1-2-B	Supplying and erecting Direct on line starter with 30 Amp. (resistive @ 230v) power relay and with 2 to 5/ 4 to 10 / 8 to 20 amp. Range C.T. Operated electronic overload relay in engineering grade plastic enclosure for 3 ph 415v 50 HZ A.C. motor up to 7.5 HP with high voltage protection (above 480 v) and under voltage protection (below 330 v) current sensing single phasing protection, Reverse phasing protection, inverse current characteristic overload protection with indication for On, OL, HV, LV SPP in a single unit with feather touch start / stop push button, high temperature with standing Bakelite terminals complete erected on P.W. Block with necessary connection. [Cat.II]	Ea	2220.00	90.00	2310.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-1-3.	Supplying and erecting push button operated fully automatic Star-Delta starter with 3 Nos. of 15A. rating contactors and directly operated thermal overload relay having 10-21A range and erected in sheet steel enclosure for 3 phase 415V, 50 c/s. A.C. motors from 7.5 to 15H.P. complete erected on				
	(a) P.W. Block with necessary connection.				
	Cat.II	Ea.	7800.00	180.00	7980.00
	Cat.III	Ea.	10200.00	180.00	10380.00
	(b) Angle iron frame add to the above	Ea.	132.00	70.00	202.00
9-1-4.	Supplying and erecting push button operated fully automatic Star-Delta starter with 3 Nos. of 32A. rating contactors and 1 No. of directly operated thermal overload relay having 20-32A range in sheet steel enclosure for 3 phase 415V. 50 c/s. A.C. motors up to 35 H.P. complete erected on				
	(a) P.W. Block with necessary connection				
	Cat.II	Ea.	11500.00	200.00	11700.00
	Cat.III	Ea.	13900.00	200.00	14100.00
	(b) For erection on Angle iron frame add to the above.	Ea.	150.00	50.00	200.00
9-1-5-1.	Providing and erecting AC-3 duty 3 pole power contactor with 2 NO & 2 NC aux contacts complete with 415V/220V operating coil suitable for (L&T, BCH, T.C., Siemens, C&S make).				
	(a) for 25 / 32 A rating	Ea.	3720.00	80.00	3800.00
	(b) for 40 A rating	Ea.	5520.00	80.00	5600.00
	(c) for 60 / 70 A rating	Ea.	9420.00	90.00	9510.00
	(d) For 80 / 95 A Rating	Ea.	11940.00	90.00	12030.00
	(e) for 110 A rating	Ea.	14256.00	110.00	14366.00
9-1-5-2.	Providing and erecting AC-3 duty 3 pole power contactors spare kits (L & T, C&S, BCH, T.C. Siemens, make).				
	(a) for 25 / 32 A rating	Ea.	1152.00	60.00	1212.00
	(b) for 40 A rating	Ea.	2292.00	60.00	2352.00
	(c) for 60 / 70 A rating	Ea.	3972.00	60.00	4032.00
	(d) For 80 / 95 A Rating	Ea.	5400.00	60.00	5460.00
	(e) for 110 A rating	Ea.	6612.00	60.00	6672.00
9-1-5-3.	Providing and erecting AC-3 duty 3 pole power contactor thermal over load relay (L & T BCH / Siemens, / C & S / Alstom make)				
	(a) For 4 - 15 Amp. rating	Ea.	1032.00	60.00	1092.00
	(b) For 25 Amp rating,	Ea.	1524.00	60.00	1584.00
	(c) For 32 Amp. rating	Ea.	2340.00	60.00	2400.00
	(d) For 40 Amp.	Ea.	2340.00	60.00	2400.00
	(e) For 48 to 70 Amp.	Ea.	4092.00	60.00	4152.00
	(f) For 80 to 110 Amp.	Ea.	4464.00	60.00	4524.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-1-6	Providing and erecting AC-3 duty 4 pole A.C. Coil with 2 NO & 2 NC aux contacts complete with 415V/220V operating coil suitable for (L&T, BCH,T.C., Siemens, C&S make).				
	(a) for 25 / 32 A rating	Ea	1596.00	80.00	1676.00
	(b) for 40 A rating	Ea	2580.00	80.00	2660.00
	(c) for 60 / 70 A rating	Ea	6612.00	80.00	6692.00
	(d) For 80 / 95 A Rating	Ea	9600.00	100.00	9700.00
	(e) for 110 A rating	Ea	14400.00	110.00	14510.00
9-1-7	Pro. & erecting electronic overload relay with single phasing preventer [(L&T, Alstom, BCH,T.C., Siemens, C&S make).				
	(a) for 30 to 50 Amp.	Ea	6600.00	120.00	6720.00
	(b) for 48 to 150 Amp.	Ea	7440.00	120.00	7560.00
9-1-8	Providing and erecting operating coil for power contactors				
	(a) for 32A/40A	Ea.	540.00	50.00	590.00
	(b) for 70A/110A	Ea.	1140.00	50.00	1190.00
9-1-9	Pro. & erecting motor protection circuit breaker with shock proof enclosure (IP 65) erected as per direction for following motor HP 3 phase 440V A.C.				
	(A) up to 5 Hp 7 to 10 Amp.	Ea	4200.00	150.00	4350.00
	(B) up to 7.5 HP / 10 HP 12 to 18 Amp.	Ea	5460.00	150.00	5610.00
	(C) up to 15 HP 18 to 26 Amp.	Ea	5940.00	170.00	6110.00
	(D) up to 20 HP 24 to 36 Amp.	Ea	8100.00	170.00	8270.00
SECTION 9 - 2					
9-2-1.	Supplying and erecting approved make Analog type voltmeter moving iron with square/ Round Dial, flush/pedestal mounting pattern for A.C.Voltage 0 to 500 Volt range, erected on panel board with all connection, wiring etc.	Ea.	380.00	40.00	420.00
9-2-2.	Supplying and erecting approved make panel mounting type Digital Voltmeter having 3 digits LED display, 0 to 750 AC Volts range erected on existing panel board with all connection, wiring etc. with manufacturers calibration certificate.	Ea.	1450.00	40.00	1490.00
9-2-3.	Supplying and erecting approved make Analog type moving Iron Ammeter direct reading type 0-30A AC current , 500 V square / . Round dial, flush or projection type complete erected with connection and wiring.	Ea.	330.00	40.00	370.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-2-4.	Supplying and erecting approved make panel mounting type Digital Ammeter having 3 digits LED display , external CT operated, calibrated for 0 to 1000 Amps suitable to operate on 500 Volt AC, erected on existing panel board with all connection, wiring etc. with manufacturers calibration certificate.	Ea.	1780.00	40.00	1820.00
9-2-5.	Supplying and erecting approved make Analog type moving iron C.T operated Ammeter A C Current suitable slide in scale 0- 400 Amp. with 3 Nos. of Current Transformer erected on panel board with connections.	Ea.	1550.00	300.00	1850.00
9-2-6.	Supplying and erecting Ammeter / Voltmeter selector switch for 3 phase AC Supply 500 V on existing panel board with necessary connections.	Ea.	330.00	40.00	370.00
9-2-7.	Providing & erecting L.T. Current Transformer with bar primary 50/5 to 1000/5 ratio 15 VA burden erected in existing CRCA box duly secured with insulating materials connected to the meter	Ea.	280.00	40.00	320.00
9-2-8.	Supplying & erecting approved make Power Factor Meter 150mm dia flush/projection type/ balanced & unbalanced load to work with appropriately provided CT's 100/5A to 400/5A ratio & other accessories complete erected in M.S. box & connected to the circuit by means of PVC copper Core leads.	Ea.	5800.00	160.00	5960.00
9-2-9.	Supplying and erecting approved make suitable panel indicator lamps of LED type lamp, lens cover, Bakelite holder complete erected with necessary connections.	Ea.	40.00	10.00	50.00
9-2-10.	Supplying & erecting directly operated single phasing preventer complete erected and connected to supply up to 45 Amp. Range.	Ea.	1180.00	80.00	1260.00

SECTION 9-3

NOTE: The head and flow of pump is showing minimum values for getting best operating efficiency.

9-3-1.	Supplying & erecting approved make self-priming domestic monoblock water pump with 0.5 H.P. motor , suitable for operation on 230 volts 50 c/s. AC supply with metallic flange, delivery and discharge of 32 LPM. at 10 mtrs head.				
	Cat II	Ea.	4075.00	230.00	4305.00
	Cat III	Ea.	5625.00	230.00	5855.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-3-2.	Supplying & erecting approved make self-priming domestic monoblock water pump with 1 H.P motor, suitable for operation on 230 volts, 50c/s. AC supply with metallic flange, and M.S. impeller delivery and following discharge				
	(a) 40 LPM at 24 mtrs. head suitable for 25mm dia. Delivery				
	Cat. II	Ea.	5980.00	230.00	6210.00
	Cat. III	Ea.	6600.00	230.00	6830.00
	(b) 100 LPM at 14 mtrs. head suitable for 25 mm dia. delivery				
	Cat. II	Ea.	7690.00	230.00	7920.00
	Cat. III	Ea.	8450.00	230.00	8680.00
9-3-3	Supplying & erecting approved make self-priming domestic monoblock water pump with 1.5 H.P motor, suitable for operation on 230 volts, 50c/s. AC supply with metallic flange, and M.S. impeller delivery and following discharge 44 LPM at 32 Mtr head suitable 25 mm dia delivery				
	Cat. II	Ea.	7280.00	230.00	7510.00
	Cat. III	Ea.	8050.00	230.00	8280.00
SECTION 9-4					
9-4-1.	Providing & erecting open well type horizontal mono block pump set with stainless steel body having following specification				
	(A) 0.5 H.P. single phase open well motor pump set having discharge of 115 LPM @ 15 mtr. head suitable for 32 mm dia. delivery pipe with control panel				
	Cat. I	Ea.	5980.00	350.00	6330.00
	Cat. II	Ea.	6730.00	350.00	7080.00
	(A-1) 0.75 H.P. single phase open well motor pump set having discharge of 170 LPM @ 20 mtr. head suitable for 25 mm dia delivery pipe with control panel				
	Cat. I	Ea.	7110.00	350.00	7460.00
	Cat. II	Ea.	7510.00	350.00	7860.00
	(B) 1 H.P. single phase open well motor pump set suitable for 185 LPM discharge @ 25 mtr. head, suitable for 32 mm dia. Delivery pipe with control panel.				
	Cat. I	Ea.	7710.00	350.00	8060.00
	Cat. II	Ea.	8220.00	350.00	8570.00
	(C) 1 HP Three phase open well motor pump set suitable for 190 LPM discharge @ 21 mtr. head, suitable for 32mm dia. delivery pipe.				
	Cat. I	Ea.	7410.00	350.00	7760.00
	Cat. II	Ea.	7910.00	350.00	8260.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-4-2.	Providing & erecting open well horizontal mono block pump set with cast iron body, complete for three phase submersible motor having				
	[A] For 1.5 HP 3 phase open well horizontal mono block pump set suitable for 190 LPM @ 20 mtr head suitable for 40 mm dia delivery pipe				
	Cat.I	Ea.	8210.00	350.00	8560.00
	Cat.II	Ea.	8810.00	350.00	9160.00
	[B] For 2 HP 3 phase open well horizontal mono block pump set suitable for 200 LPM @ 25 mtr head suitable for 50 mm dia delivery pipe				
	Cat.I	Ea.	8610.00	350.00	8960.00
	Cat.II	Ea.	9210.00	350.00	9560.00
	[C] For 3 HP 3 phase open well horizontal mono block pump set suitable for 85 LPM to 270 LPM @ 11 mtr to 33 mtr head suitable for 50/65 mm dia delivery pipe				
	Cat.I	Ea.	12410.00	350.00	12760.00
	Cat.II	Ea.	13610.00	350.00	13960.00
	[D] For 5 HP 3 phase open well horizontal mono block pump set suitable for 1350 LPM to 310 LPM @ 10 to 42 Mtr head suitable for 50/65 mm dia delivery pipe				
	Cat.I	Ea.	14600.00	350.00	14950.00
	Cat.II	Ea.	16300.00	350.00	16650.00
	[E] For 7.5 HP 3 phase open well horizontal mono block pump set suitable for 1550 LPM to 370 LPM @ 13.5 Mtr to 42 Mtr head suitable for 65/75 mm dia delivery pipe				
	Cat.I	Ea.	19710.00	350.00	20060.00
	Cat.II	Ea.	22710.00	350.00	23060.00
	[F] For 10 HP 3 phase open well horizontal mono block pump set suitable for 1725 LPM to 940 LPM @ 15 to 36 MTR head suitable for 65/80 mm dia delivery pipe				
	Cat.I	Ea.	22790.00	350.00	23140.00
	Cat.II	Ea.	24900.00	350.00	25250.00
	[G] For 12.5 HP 3 phase open well horizontal mono block pump set suitable for 1530 LPM to 950 LPM @ 24 to 40 MTR head suitable for 65/80 mm dia delivery pipe				
	Cat.I	Ea.	29600.00	350.00	29950.00
	Cat.II	Ea.	31200.00	350.00	31550.00
	[H] For 15 HP 3 phase open well horizontal mono block pump set suitable for 1600 LPM to 1025 LPM @ 33 to 42 MTR head suitable for 65 /80 mm dia delivery pipe				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.I	Ea.	31200.00	350.00	31550.00
	Cat.II	Ea.	35400.00	350.00	35750.00
	[I] For 20 HP 3 phase open well horizontal mono block pump set suitable for 1750 LPM to 1150 LPM @ 33 to 51 MTR head suitable for 65 /80 mm dia delivery pipe				
	Cat.I	Ea.	42900.00	350.00	43250.00
	Cat.II	Ea.	47380.00	350.00	47730.00
	[J] For 25 HP 3 phase open well horizontal mono block pump set suitable for 1850 LPM to 1075 LPM @ 36 to 60 MTR head suitable for 65 /80 mm dia delivery pipe				
	Cat.I	Ea.	46100.00	350.00	46450.00
	Cat.II	Ea.	52100.00	350.00	52450.00
	[K] For 30 HP 3 phase open well horizontal mono block pump set suitable for 2450 LPM to 1575 LPM @ 40 to 51 MTR head suitable for 80 / 100 mm dia delivery pipe				
	Cat.I	Ea.	48000.00	350.00	48350.00
	Cat.II	Ea.	54300.00	350.00	54650.00
SECTION 9-5					
9-5-1.	Supplying & erecting approved make Automatic liquid level controller 6A. with sensor testing as per instruction of Engineer in charge on site complete with wiring connection with existing wires , with copper conductor from pump to upper and lower tank.	Ea.	2400.00	100.00	2500.00
9-5-2	Supplying & erecting approved make motor control cubical panel (Direct - on - line) made from 16 G. CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking. arrangement consisting of suitable size of ON- OFF isolator (AC - 3/23duty) main fuses, single phasing preventer, indicating lamps for R- Y - B phases, overload relay, Automatic water level controller, Ammeter, Voltmeter each with two way selector switch incoming, wires duly socket crimped, main contactor & overload relay, start - stop push buttons, to be erected on angle iron frame grouted on wall as directed. The isolator, overload relay & contactors will be of L & T, Siemens or BCH make only.				
	(a) DOL up to 5.0 H.P.	Ea.	7950.00	250.00	8200.00
	(b) DOL for 7.5 H.P.	Ea.	9000.00	250.00	9250.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-5-3	Supplying & erecting approved make motor control cubical panel (Star delta) made from 16G CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking with suitable size of ON - OFF isolator (AC 3 / 23 duty) main fuses. Digital volt and current meter (in a single unit) with micro controller based control unit and current sensing single phasing preventer electronic overload protection, over voltage (Programmable) protection and under voltage (Programmable) protection, prod less dry run protection programming facility for setting of all parameter like overload current, high voltage limit, low voltage limit, dry run limit with digital indication on seven segment LED display for any fault like over load, high voltage, low voltage, dry running single crimped, electronic star delta timer, feather touch start / stop push buttons to be erected on angle iron frame. Grouted on wall the contactors will be of L& T, Siemens, BCH make only)				
	(a) DOL up to 5.0 H.P.	Ea	7450.00	250.00	7700.00
	(b) DOL for 7.5 H.P.	Ea	9200.00	250.00	9450.00
9-5-4	Supplying & erecting approved make 3 phase motor control cubical panel (Star - Delta) made from 16 G. CRCA sheet duly painted with epoxy powder painted inside and outside with hinged doors and locking arrangement, consisting of suitable size of ON- OFF isolator (AC - 3/23 duty) main fuses, single phasing preventer cum water level. Guard (Complete unit), Toggle switch to by pass Single phase preventer cum WLG, indicating lamps for R- Y- B phases, over load relay, Automatic water level controller, Ammeter & Voltmeter each with two way selector switch incoming wires duly socket Crimped, Panel to be erected on angle iron frame grouted on wall as directed. Star Delta & main contactor, overload relay, thermal / Electronic Star delta cutoff timer, start - stop push buttons. The isolator overload relay & contactors of L& T, Siemens or Cutler Hamer make only. Panel to be erected on angle iron frame ground on wall.				
	(a) S/D up to 7.5 H.P.	Ea.	13500.00	300.00	13800.00
	(b) S/D up to 10 H.P.	Ea.	14150.00	300.00	14450.00
	(c) S/D up to 12.5 H.P.	Ea.	14950.00	400.00	15350.00
	(d) S/D up to 15 HP	Ea.	16400.00	400.00	16800.00
	(e) S/D up to 22.5 H.P.	Ea.	19050.00	450.00	19500.00
	(f) S/D up to 30 H.P.	Ea.	24750.00	550.00	25300.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-5-5	Supplying & erecting approved make motor control cubical panel [Star delta] made from 16G CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking with suitable size of ON - OFF isolator (AC 3 / 23 duty) main fuses. Digital volt and current meter (in a single unit) with micro controller based control unit and current sensing single phasing preventer electronic overload protection, over voltage (Programmable) protection and under voltage (Programmable) protection, prod less dry run protection programming facility for setting of all parameter like overload current, high voltage limit, low voltage limit, dry run limit with digital indication on seven segment LED display for any fault like over load, high voltage, low voltage, dry running single crimped, electronic star delta timer, feather touch start / stop push buttons to be erected on angle iron frame. Grouted on wall the contactors will be of L & T, Siemens, BCH make only)				
	(a) S/D up to 7.5 H.P.	Ea	13700.00	300.00	14000.00
	(b) S/D up to 10 H.P.	Ea	14350.00	300.00	14650.00
	(c) S/D up to 12.5 H.P.	Ea	15200.00	400.00	15600.00
	(d) S/D up to 15 HP	Ea	16650.00	400.00	17050.00
	(e) S/D up to 22.5 H.P.	Ea	19350.00	450.00	19800.00
	(f) S/D up to 30 H.P.	Ea	24990.00	550.00	25540.00
9-5-6	Supplying and erecting approved make 3 phase motor control panel (ATS) made from 16 G. CRCA sheet duly painted with epoxy power paint inside and outside with hinged doors and locking arrangement, consisting, of suitable switch of AC 23 duty with HRC fuses (Cat.III), starting and running contactors, overload relay, Automatic water level controller, Electronic timer with master timer CT operated Ammeter with selector switch, Voltmeter with selector switch, phase indicating lamps, single phasing preventer, water level guard, over load, start, run and stop push buttons, air cooled auto transformer with 60%, 70%, 80% tapping. Panel to be erected on angle iron frame grouted on wall as directed., contactors relays, timer etc. shall be of L & T Siemens / Cutler Hammer make.				
	(a) Suitable for 25 H.P.	Ea	33500.00	450.00	33950.00
	(b) Suitable for 30 H.P.	Ea	39700.00	550.00	40250.00
	(c) Suitable for 35 H.P.	Ea	43650.00	550.00	44200.00
	(d) Suitable for 40 H.P.	Ea	47650.00	650.00	48300.00
	(e) Suitable for 50 H.P.	Ea	58500.00	750.00	59250.00
	(f) Suitable for 60 H.P.	Ea	64900.00	850.00	65750.00
SECTION 9-6					
9-6-1.	Supplying of single phase submersible pump set suitable for 100 mm size or more dia bore well having motor capacity and discharge as under with necessary panel box				
	(a) Motor rating 1 HP (12 stage) pump having capacity of 50 LPM at 43 to 45 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea	12450.00	0.00	12450.00
	Cat.II	Ea	13800.00	0.00	13800.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) Motor rating 1.5 HP (16 stage) pump having capacity of 50 LPM at 60 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea.	14200.00	0.00	14200.00
	Cat.II	Ea.	15580.00	0.00	15580.00
	(c) Motor rating 2 HP (17 stage) pump having capacity of 106 LPM at 40 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea.	14700.00	0.00	14700.00
	Cat.II	Ea.	16270.00	0.00	16270.00
	Note:- Add or less Rs. 450/- for Additional / Less Stage				
9-6-2.	Supplying submersible pump set suitable for bore of 100 mm. dia. or more having three phase motor capacity not more than 3 H.P. of different range with following capacity				
	(A) (20 stage) 170 to 185 LPM discharge at 57 to 48 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	15870.00	0.00	15870.00
	Cat.II	Ea.	17190.00	0.00	17190.00
	Cat.III	Ea.	18500.00	0.00	18500.00
	(B) (15 stage) 130 LPM discharge at 50 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	15300.00	0.00	15300.00
	Cat.II	Ea.	16600.00	0.00	16600.00
	Cat.III	Ea.	17900.00	0.00	17900.00
	(C) (12 stage) 130 LPM discharge at 54 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	14500.00	0.00	14500.00
	Cat.II	Ea.	15800.00	0.00	15800.00
	Cat.III	Ea.	17000.00	0.00	17000.00
	Note:- Add or less Rs. 500/- for Additional / Less Stage				
9-6-3.	Supplying submersible pump set suitable for bore of 100 mm. dia. or more having three phase motor capacity not more than 5 H.P. with following capacity				
	(a) (25 stage) 120 to 125 LPM discharge at 155 to 120 mtrs. head respectively suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	19800.00	0.00	19800.00
	Cat.II	Ea.	21000.00	0.00	21000.00
	Cat.III	Ea.	23800.00	0.00	23800.00
	(b) (16 stage) 140 to 180 LPM discharge at 96 to 69 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	17200.00	0.00	17200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.II	Ea.	18500.00	0.00	18500.00
	Cat.III	Ea.	19800.00	0.00	19800.00
	Note:- Add or less Rs. 550/- for Additional / Less Stage				
9-6-4.	Supplying submersible pump set suitable for bore of 150 mm. dia. or more having three phase motor capacity not more than 5 H.P. with following capacity ..				
	(a) (8 stage) 240 to 200 LPM discharge at 70 to 78 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	23500.00	0.00	23500.00
	Cat.II	Ea.	27200.00	0.00	27200.00
	Cat.III	Ea.	29500.00	0.00	29500.00
	(b) (5 stage) 410 to 350 LPM discharge at 40 to 36 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	21800.00	0.00	21800.00
	Cat.II	Ea.	25500.00	0.00	25500.00
	Cat.III	Ea.	28700.00	0.00	28700.00
	Note:- Add or less Rs. 600/- for Additional / Less Stage				
9-6-5.	Supplying submersible pump set suitable for bore of 150 mm. dia. or more having three phase motor capacity not more than 7.5 H.P. with following capacity ..				
	(a) (12 stage) 280 to 240 LPM discharge at 90 to 104 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	25500.00	0.00	25500.00
	Cat.II	Ea.	28400.00	0.00	28400.00
	Cat.III	Ea.	31500.00	0.00	31500.00
	(b) (8 stage) 390 to 350 LPM discharge at 62 to 70 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	23500.00	0.00	23500.00
	Cat.II	Ea.	26600.00	0.00	26600.00
	Cat.III	Ea.	29700.00	0.00	29700.00
	Note:- Add or less Rs. 650/- for Additional / Less Stage				
9-6-6	Supplying submersible pump set suitable for bore of 150 mm dia or more having 3 phase motor capacity not less than 10 HP with following capacity.				
	[A] 10 stage 575 to 480 LPM discharge at 60 to 70 mtr head for 65 mm dia delivery pipe				
	Cat.I	Ea.	30450.00	0.00	30450.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.II	Ea	32000.00	0.00	32000.00
	Cat.III	Ea	35100.00	0.00	35100.00
	[B] 20 stage 210 to 160 LPM discharge at 148 to 173 mtr head for 50 mm dia delivery pipe				
	Cat.I	Ea	35100.00	0.00	35100.00
	Cat.II	Ea	36700.00	0.00	36700.00
	Cat.III	Ea	39300.00	0.00	39300.00
	[C] 25 stage 160 to 100 LPM discharge at 185 to 220 mtr head for 50 mm dia delivery pipe				
	Cat.I	Ea	39900.00	0.00	39900.00
	Cat.II	Ea	41500.00	0.00	41500.00
	Cat.III	Ea	43500.00	0.00	43500.00
	Note:- Add or less for Item No 9-6-6 Rs. 900/- for Additional / Less Stage				
9-6-7-A.	Supplying submersible pump set for bore of 150 mm. dia. Or more having 3 phase motor capacity not more than 12.5 H.With following capacity				
	(a)12 Stage, 390 to 350 L.P.M. discharge at the head about 95 to 107 mtrs. suitable for 50 mm dia. Delivery pipe				
	Cat.I	Ea.	31700.00	0.00	31700.00
	Cat.II	Ea.	38000.00	0.00	38000.00
	Cat.III	Ea.	43500.00	0.00	43500.00
9-6-7-B.	(b)25 Stage, 210 to 140 L.P.M. discharge at the head about 185 to 229 mtrs. suitable for 50 mm dia. Delivery pipe				
	Cat.I	Ea.	39000.00	0.00	39000.00
	Cat.II	Ea.	40500.00	0.00	40500.00
	Cat.III	Ea.	44100.00	0.00	44100.00
	Note:- Add or less Rs. 950/- for Additional / Less Stage				
9-6-8.	Supplying submersible pump set for bore of 150 mm. dia. Or, more having 3 phase motor capacity not more than 15 H.P. and discharge capacity having				
	(a) (15 Stage) 480 to 330 L.P.M at the head 105 to 135 mtrs. suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	38300.00	0.00	38300.00
	Cat.II	Ea.	44000.00	0.00	44000.00
	Cat.III	Ea.	49500.00	0.00	49500.00
	(b) (12 Stage) 360 to 410 L.P.M. at the head 84 to 108 mtrs suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	37000.00	0.00	37000.00
	Cat.II	Ea.	42500.00	0.00	42500.00
	Cat.III	Ea.	48000.00	0.00	48000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(c) (10 stage) 600 to 500 L.P.M. at the head 70 to 85 mtrs suitable for 65/50 mm dia. delivery pipe				
	Cat.I	Ea.	35000.00	0.00	35000.00
	Cat.II	Ea.	40000.00	0.00	40000.00
	Cat.III	Ea.	46200.00	0.00	46200.00
	(d) (8 stage) 695 to 492 L.P.M. at the head 48 to 73 mtrs suitable for 65/50 mm dia. delivery pipe				
	Cat.I	Ea.	32500.00	0.00	32500.00
	Cat.II	Ea.	37000.00	0.00	37000.00
	Cat.III	Ea.	44200.00	0.00	44200.00
	Note:- Add or less Rs. 1100/- for Additional / Less Stage				
9-6-9.	Supplying submersible pump set for bore of 150 mm. dia. Or more having 3 phase motor capacity about 20 H.P and discharge capacity having				
	(a) (20 Stage) 370 to 350 LPM discharge at head in between 168 to 177 mtrs. suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	43650.00	0.00	43650.00
	Cat.II	Ea.	50900.00	0.00	50900.00
	Cat.III	Ea.	58100.00	0.00	58100.00
	(b) (14 Stage) 650 to 550 LPM discharge at head 84 to 112 mtrs suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	39650.00	0.00	39650.00
	Cat.II	Ea.	46900.00	0.00	46900.00
	Cat.III	Ea.	54000.00	0.00	54000.00
	(c) (8 Stage) 1000 to 900 LPM discharge at head 59 to 64 mtrs suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	35700.00	0.00	35700.00
	Cat.II	Ea.	43500.00	0.00	43500.00
	Cat.III	Ea.	51500.00	0.00	51500.00
	Note:- Add or less Rs. 1100/- for Additional / Less Stage				
9-6-10.	Supplying submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 25 H.P. and discharge capacity having				
	(a) (12 Stage) 472 to 330 L.P.M. discharge at the head 120 to 192 mtrs. suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	43700.00	0.00	43700.00
	Cat.II	Ea.	55200.00	0.00	55200.00
	Cat.III	Ea.	62000.00	0.00	62000.00
	(b) (8 Stage) 1000 to 750 L.P.M. discharge at the head 87 to 115 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	41400.00	0.00	41400.00
	Cat.II	Ea.	52900.00	0.00	52900.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.III	Ea.	61100.00	0.00	61100.00
	(c) (6 Stage) 1000 to 800 L.P.M. discharge at the head 84 to 102 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	39600.00	0.00	39600.00
	Cat.II	Ea.	50600.00	0.00	50600.00
	Cat.III	Ea.	60200.00	0.00	60200.00
	(d) (5 Stage) 1400 to 1200 L.P.M. discharge at the head 64 to 79 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	38500.00	0.00	38500.00
	Cat.II	Ea.	48900.00	0.00	48900.00
	Cat.III	Ea.	58500.00	0.00	58500.00
	Note:- Add or less Rs. 2200/- for Additional / Less Stage				
9-6-11.	Supplying submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 30 H.P. and discharge capacity having				
	(a) (12 Stage) 650 to 440 L.P.M. discharge at the head 120 to 190 mtrs. suitable for 80 mm dia. delivery pipe.				
	Cat.I	Ea.	64500.00	0.00	64500.00
	Cat.II	Ea.	69500.00	0.00	69500.00
	Cat.III	Ea.	74750.00	0.00	74750.00
	(b) (10 Stage) 620 to 510 L.P.M. discharge at the head 130 to 160 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	62500.00	0.00	62500.00
	Cat.II	Ea.	67300.00	0.00	67300.00
	Cat.III	Ea.	72300.00	0.00	72300.00
	(c) (8 Stage) 900 to 650 L.P.M. discharge at the head 104 to 152 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	60000.00	0.00	60000.00
	Cat.II	Ea.	64500.00	0.00	64500.00
	Cat.III	Ea.	69800.00	0.00	69800.00
	(d) (5 Stage) 1400 to 1150 L.P.M. discharge. at the head 70 to 85 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	57000.00	0.00	57000.00
	Cat.II	Ea.	61500.00	0.00	61500.00
	Cat.III	Ea.	67800.00	0.00	67800.00
9-6-12.	Supplying submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 34/35 H.P discharge capacity having				
	(a) (12 Stage) 750 to 500 L.P.M. discharge at the head 172 to 204 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	74200.00	0.00	74200.00
	Cat.II	Ea.	79100.00	0.00	79100.00
	Cat.III	Ea.	84200.00	0.00	84200.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) (6 Stage) 1600 to 1150 L.P.M. discharge at the head 72 to 102 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	68000.00	0.00	68000.00
	Cat.II	Ea.	73300.00	0.00	73300.00
	Cat.III	Ea.	78100.00	0.00	78100.00
	(c) (5 Stage) 1500 to 1300 L.P.M. discharge at the head 75 to 85 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	67100.00	0.00	67100.00
	Cat.II	Ea.	72200.00	0.00	72200.00
	Cat.III	Ea.	77100.00	0.00	77100.00
9-6-13.	Supplying submersible pump set for bore of 200 mm. dia. Or more having 3 phase motor capacity about 40-45 H.P discharge capacity having				
	(a) (11 Stage) 930 to 780 L.P.M. discharge at the head 154 to 182 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	82500.00	0.00	82500.00
	Cat.II	Ea.	87500.00	0.00	87500.00
	Cat.III	Ea.	92200.00	0.00	92200.00
	(b) (9 Stage) 1270 to 1180 L.P.M. discharge at the head 113 to 126 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	79500.00	0.00	79500.00
	Cat.II	Ea.	84500.00	0.00	84500.00
	Cat.III	Ea.	89500.00	0.00	89500.00
	(c) (6 Stage) 1600 to 1300 L.P.M. discharge at the head 81 to 102 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	76500.00	0.00	76500.00
	Cat.II	Ea.	81500.00	0.00	81500.00
	Cat.III	Ea.	86500.00	0.00	86500.00
9-6-14.	Supplying submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 50-55 H.P discharge capacity having				
	(a) (13 Stage) 100 to 400 L.P.M. discharge at the head 182 to 265 mtrs. suitable for 80 mm dia. Delivery pipe				
	Cat.I	Ea.	92000.00	0.00	92000.00
	Cat.II	Ea.	98500.00	0.00	98500.00
	Cat.III	Ea.	104000.00	0.00	104000.00
	(b) (10 Stage) 1400 to 1200 L.P.M. discharge at the head 117 to 128 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	87500.00	0.00	87500.00
	Cat.II	Ea.	94500.00	0.00	94500.00
	Cat.III	Ea.	99500.00	0.00	99500.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(c) (8 Stage) 1400 to 1100 L.P.M. discharge at the head 113 to 138 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	84500.00	0.00	84500.00
	Cat.II	Ea.	91500.00	0.00	91500.00
	Cat.III	Ea.	96500.00	0.00	96500.00
9-6-15	Supplying submersible pump set for bore of 225 mm. dia. or more having 3 phase motor capacity about 50-55 H.P discharge capacity having				
	(a) (6 Stage) 1800 to 1200 L.P.M. discharge at the head 86 to 114 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	80500.00	0.00	80500.00
	Cat.II	Ea.	87500.00	0.00	87500.00
	Cat.III	Ea.	92500.00	0.00	92500.00
9-6-16	Supplying submersible pump set for bore of 225 mm. dia. or more having 3 phase motor capacity about 60 H.P discharge capacity having				
	(a) (10 Stage) 1400 to 1150 L.P.M. discharge at the head 141 to 164 mtrs. suitable for 100 mm dia. Delivery pipe [Cat.III]	Ea.	125050.00	0.00	125050.00
	(c) (7 Stage) 2200 to 1600 L.P.M. discharge at the head 81 to 124 mtrs. suitable for 125 mm dia. Delivery pipe [Cat.III]	Ea.	117400.00	0.00	117400.00
9-6-17.	Lifting of submersible motor pump set complete with required No. & size of casing pipes by means of proper chain pulley block and pipe wrenches. Job includes stacking of pipes chronologically after due checking of threads.				
	(a) Up to 60 mtrs.	Per Job	0.00	2000.00	2000.00
	(b) Above 60 mtrs. and Up to 120 mtrs.	Per Job	0.00	3000.00	3000.00
	(c) Above 120 mtr.	Per Job	0.00	3500.00	3500.00
	(d) For Open well Horizontal submersible pump set for sump well				
	(i) 1 HP to 5 HP	Per Job	0.00	1000.00	1000.00
	(ii) 7.5HP to 15 HP	Per Job	0.00	1500.00	1500.00
	(iii) Above 15 HP	Per Job	0.00	2000.00	2000.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-6-18.	Lowering of submersible motor pump set at the depth of following , complete with required. Nos. and size of casing pipes erected by means of proper chain pulley block & pipe wrenches after checking of threads of each pipe with coupling to take the load of the pump set and pipe assembly filled up with water				
	(a) Up to 60 mtrs.	Per Job	0.00	2000.00	2000.00
	(b) Above 60 mtrs. and Up to 120 mtrs.	Per Job	0.00	3000.00	3000.00
	(c) Above 120 mtr.	Per Job	0.00	3500.00	3500.00
	(d) For Open well Horizontal submersible pump set for sump well				
	(i) 1 HP to 5 HP	Per Job	0.00	1000.00	1000.00
	(ii) 7.5HP to 15 HP	Per Job	0.00	1500.00	1500.00
	(iii) Above 15 HP	Per Job	0.00	2000.00	2000.00
SECTION 9-7					
9-7-1.	Providing and erecting ISI marked PVC insulated PVC Sheathed Flat flexible Submersible copper cable approved make of following Size.				
	(a) 3 Core x 1.5 Sq. mm.	Mtr.	65.00	3.00	68.00
	(b) 3 Core x 2.5 Sq. mm.	Mtr.	107.00	3.00	110.00
	(c) 3 Core x 4 Sq. mm	Mtr.	149.00	3.00	152.00
	(d) 3 Core x 6 Sq. mm.	Mtr.	179.00	3.00	182.00
	(e) 3 Core x 10 Sq. mm.	Mtr.	311.00	3.00	314.00
	(f) 3 Core x 16 Sq. mm.	Mtr.	515.00	3.00	518.00
	(g) 3 Core x 25 Sq. mm	Mtr.	683.00	3.00	686.00
	(h) 2 Core x 1.5 Sq. mm	Mtr.	53.00	3.00	56.00
	(i) 2 Core x 2.5 Sq. mm	Mtr.	65.00	3.00	68.00
9-7-2.	Providing Water proof straight Joint in PVC insulated flat flexible copper cable by using insulating material, water proofing material, & making the joint complete.				
	(A) Up to 10Sq. mm	Ea.	175.00	45.00	220.00
	(B) 16 to 35 Sq. mm	Ea.	250.00	75.00	325.00
9-7-3.	Supplying & erecting ISI Marked (Embossed) following size of "B" Class G.I . Pipe & erecting as directed by Engineer-in-charge with necessary plumbing as desired.				
	(A) 25 mm dia	Mtr.	126.00	25.00	151.00
	(B) 32 mm dia	Mtr.	180.00	25.00	205.00
	(C) 40 mm dia	Mtr.	216.00	30.00	246.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(D) 50 mm dia	Mtr.	276.00	30.00	306.00
	(E) 65 mm dia	Mtr.	372.00	30.00	402.00
	(F) 80 mm dia.	Mtr.	480.00	40.00	520.00
	(G) 100 mm dia.	Mtr.	756.00	50.00	806.00
9-7-4.	Supplying ISI Marked (Embossed) following size of Heavy duty "C" Class G.I . Pipe & erecting as directed by Engineer-in-charge with necessary plumbing as desired.				
	(A) 25 mm dia	Mtr.	180.00	25.00	205.00
	(B) 32 mm dia	Mtr.	228.00	25.00	253.00
	(C) 40 mm dia	Mtr.	270.00	25.00	295.00
	(D) 50 mm dia	Mtr.	384.00	30.00	414.00
	(E) 65 mm dia	Mtr.	468.00	30.00	498.00
	(F) 80 mm dia.	Mtr.	588.00	40.00	628.00
	(G) 100 mm dia.	Mtr.	900.00	40.00	940.00
	(H) 125 mm dia.	Mtr.	1092.00	50.00	1142.00
9-7-5.	Supplying and erecting with leak proof materials, M.S. Heavy duty ISI marked coupling having threads of 8 TPI/11 TPI suitable for 'C' class pipe to take load of pump and pipe assembly of following size and TPI :-				
	(A) 40mm (1.5") dia. pipe 8 TPI	Ea.	72.00	10.00	82.00
	(B) 40mm (1.5") dia. pipe 11 TPI	Ea.	48.00	10.00	58.00
	(C) 50 mm (2") dia. pipe 8 TPI	Ea.	96.00	10.00	106.00
	(D) 50mm (2") dia. pipe 11 TPI	Ea.	60.00	10.00	70.00
	(E) 65mm (2.1/2") dia. pipe 8 TPI	Ea.	132.00	15.00	147.00
	(F) 65mm (2.1/2") dia. pipe 11 TPI	Ea.	78.00	15.00	93.00
	(G) 80mm (3") dia pipe 8 TPI	Ea.	156.00	20.00	176.00
	(H) 80mm (3") dia. pipe 11 TPI	Ea.	84.00	20.00	104.00
	(I) 100mm (4") dia. pipe 8 TPI	Ea.	174.00	30.00	204.00
	(J) 100mm (4") dia. pipe 11 TPI	Ea.	114.00	30.00	144.00
	(K) 125mm (5") dia. pipe 8 TPI	Ea.	300.00	40.00	340.00
	(L) 125mm (5") dia. pipe 11 TPI	Ea.	180.00	40.00	220.00
9-7-6.	Add cost of leak proof complete welding surrounding pipe and coupling for use as column pipe for following size				
	(A) 50mm, 65 mm	Ea.	0.00	70.00	70.00
	(B) 80 mm, 100 mm, 125 mm	Ea.	0.00	105.00	105.00
9-7-7.	Cutting the heavy duty pipe and threading one end of pipe with 8 TPI / 11 TPI as per requirement and including to and fro charges.				
	(A) 40mm (1.5") dia pipe	Ea.	0.00	63.00	63.00
	(B) 50mm (2") dia pipe	Ea.	0.00	81.00	81.00
	(C) 65mm (2.1/2") dia. Pipe	Ea.	0.00	106.00	106.00
	(D) 80mm (3") dia pipe	Ea.	0.00	163.00	163.00
	(E) 100mm (4") dia pipe	Ea.	0.00	200.00	200.00
	(F) 125mm (5") dia. pipe	Ea.	0.00	231.00	231.00
9-7-8.	Heavy duty clamp made from 4" x 1.5" iron strip suitable for column pipe 1.5" to 2" length.				
	(A) 40 mm (1.5") dia pipe	Ea.	168.00	0.00	168.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) 50mm(2") dia pipe	Ea	210.00	0.00	210.00
	(C) 65mm(2.1/2") dia. Pipe	Ea	240.00	0.00	240.00
	(D) 80mm (3") dia pipe	Ea	258.00	0.00	258.00
	(E) 100mm (4") dia pipe	Ea	330.00	0.00	330.00
9-7-9.	Supplying & erecting G.I. bend for pipe connections suitable for				
	(A) 25 mm (1")	Ea	60.00	15.00	75.00
	(B) 32 mm (1.25")	Ea	66.00	15.00	81.00
	(C) 40 mm (1.5")	Ea	90.00	20.00	110.00
	(D) 50 mm(2")	Ea	114.00	20.00	134.00
	(E) 65 mm(2.5")	Ea	204.00	30.00	234.00
	(F) 80 mm(3)	Ea	288.00	30.00	318.00
	(G) 100 mm(4")	Ea	600.00	40.00	640.00
	(H) 125mm (5")	Ea	696.00	40.00	736.00
9-7-10.	Supplying & erecting ISI Marked G.I. Elbow for pipe connections suitable for				
	(A) 25 mm (1")	Ea	36.00	15.00	51.00
	(B) 32 mm (1.25")	Ea	66.00	15.00	81.00
	(C) 40 mm (1.5")	Ea	84.00	20.00	104.00
	(D) 50 mm(2")	Ea	150.00	20.00	170.00
	(E) 65 mm(2.5")	Ea	252.00	30.00	282.00
	(F) 80 mm(3)	Ea	372.00	30.00	402.00
9-7-11.	Supplying & erecting ISI Marked G.I. Reducer Elbow for pipe connections suitable for				
	(A) 25 mm (1")	Ea	42.00	15.00	57.00
	(B) 32 mm (1.25")	Ea	78.00	15.00	93.00
	(C) 40 mm (1.5")	Ea	96.00	20.00	116.00
	(D) 50 mm(2")	Ea	144.00	20.00	164.00
	(E) 65 mm(2.5")	Ea	276.00	30.00	306.00
	(F) 80 mm(3)	Ea	384.00	30.00	414.00
	(G) 100 mm(4")	Ea	600.00	40.00	640.00
9-7-12.	Supplying & erecting ISI Marked G.I. Reducer Socket for pipe connections suitable for				
	(A) 25 mm (1")	Ea	36.00	15.00	51.00
	(B) 32 mm (1.25")	Ea	60.00	15.00	75.00
	(C) 40 mm (1.5")	Ea	78.00	20.00	98.00
	(D) 50 mm(2")	Ea	102.00	20.00	122.00
	(E) 65 mm(2.5")	Ea	180.00	30.00	210.00
	(F) 80 mm(3)	Ea	276.00	30.00	306.00
	(G) 100 mm(4")	Ea	360.00	40.00	400.00
9-7-13.	Supplying & erecting ISI Marked G.I. Union for pipe connections suitable for		0.00		
	(A) 25 mm (1")	Ea	72.00	15.00	87.00
	(B) 32 mm (1.25")	Ea	90.00	15.00	105.00
	(C) 40 mm (1.5")	Ea	108.00	20.00	128.00
	(D) 50 mm(2")	Ea	144.00	20.00	164.00
	(E) 65 mm(2.5")	Ea	288.00	30.00	318.00
	(F) 80 mm(3)	Ea	444.00	30.00	474.00
	(G) 100 mm(4")	Ea	528.00	40.00	568.00
9-7-14.	Supplying & erecting Mild Steel heavy duty Flanges with rubber packing and hardware materials for pipe connections suitable for				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) 50 mm (2")	Ea.	132.00	20.00	152.00
	(B) 65 mm (2.5")	Ea.	156.00	20.00	176.00
	(C) 80 mm (3")	Ea.	168.00	30.00	198.00
	(D) 100 mm (4")	Ea.	216.00	30.00	246.00
	(E) 125mm (5")	Ea.	336.00	40.00	376.00
	Supplying & erecting UPVC heavy duty Flanges with rubber packing and hardware materials for pipe connections suitable for				
	(A) 50 mm (2")	Ea.	165.00	20.00	185.00
	(B) 65 mm (2.5")	Ea.	195.00	20.00	215.00
	(C) 80 mm (3")	Ea.	210.00	30.00	240.00
	(D) 100 mm (4")	Ea.	270.00	30.00	300.00
	(E) 125mm (5")	Ea.	420.00	40.00	460.00
9-7-15.	Supplying and erecting ISI marked sluice valve at position with necessary material for following size of pipe diameter.				
	(A) 25 mm (1")	Ea.	372.00	30.00	402.00
	(B) 32 mm (1.25")	Ea.	492.00	30.00	522.00
	(C) 40 mm (1.5")	Ea.	660.00	40.00	700.00
	(D) 50 mm(2")	Ea.	888.00	50.00	938.00
	(E) 65 mm(2.5")	Ea.	1740.00	80.00	1820.00
	(F) 80 mm(3)	Ea.	2220.00	100.00	2320.00
	(G) 100 mm(4")	Ea.	4380.00	150.00	4530.00
9-7-16.	Supplying, & erecting C.I. swing, check type non-return (Reflux) Valve -ISI marked suitable for following size				
	(A) 50 mm dia.	Ea.	1140.00	50.00	1190.00
	(B) 65 mm dia.	Ea.	1680.00	60.00	1740.00
	(C) 80 mm dia.	Ea.	1932.00	70.00	2002.00
	(D) 100 mm dia.	Ea.	3240.00	110.00	3350.00
	(E) 125 mm dia.	Ea.	3720.00	110.00	3830.00
9-7-17	Supplying of following size of STANDARD UPVC column pipe with coupler and wire lock				
	(A) 25 mm dia	RMT.	168.00	0.00	168.00
	(B) 32 mm dia	RMT.	210.00	0.00	210.00
	(C) 40 mm dia	RMT.	258.00	0.00	258.00
	(D) 50 mm dia	RMT.	348.00	0.00	348.00
	(E) 65 mm dia	RMT.	456.00	0.00	456.00
	(F) 80 mm dia	RMT.	612.00	0.00	612.00
	(G) 100 mm dia	RMT.	900.00	0.00	900.00
9-7-18	Supplying of following size of HEAVY UPVC column pipe with coupler and wire lock				
	(A) 40 mm dia	RMT.	300.00	0.00	300.00
	(B) 50 mm dia	RMT.	420.00	0.00	420.00
	(C) 65 mm dia	RMT.	576.00	0.00	576.00
	(D) 80 mm dia	RMT.	816.00	0.00	816.00
	(E) 100 mm dia	RMT.	1320.00	0.00	1320.00

Item N

9-7-1!

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-7-19	Supply of following size of TOP & BOTTOM accessories i.e. Adaptor set (CI) long, pump guard set, starter pipe Rubber ring for submersible pump & UPVC column pipe as directed by Engineer - in - charge with necessary plumbing as desired.				
	[A] 25 mm dia	Per Set	372.00	0.00	372.00
	[B] 32 mm dia	Per Set	540.00	0.00	540.00
	[C] 40 mm dia	Per Set	600.00	0.00	600.00
	[D] 50 mm dia	Per Set	1740.00	0.00	1740.00
	[E] 65 mm dia	Per Set	2220.00	0.00	2220.00
	[F] 80 mm dia	Per Set	3132.00	0.00	3132.00
	[G] 100 mm dia	Per Set	4524.00	0.00	4524.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 9-8					
9-8-1.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum, with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity : 3.1 m3/hr, Rated head :25 mtr motor rating : 1 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work of 25mm dia suction and delivery pipe which includes all required size of pipes which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	ea.	31000.00	1000.00	32000.00
9-8-2.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity : 5 m3/hr, Rated head :30 mtr, motor rating : 1.2 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	ea.	47500.00	1500.00	49000.00
9-8-3.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity 8 m3/hr, Rated head :40 mtr, motor rating : 1.5 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work of 25mm dia suction and delivery pipe which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	ea.	61000.00	1600.00	62600.00

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1.00
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