

**FIRE PROTECTION WORKS**

<b>PART 1 - RESEARCH BLOCK</b>					
<b>FIRE ALARM SYSTEM</b>					
		Unit	Qty	Rate	Amount
1	Supply, installation, testing and commissioning of Analogue Addressable type <b>Optical Smoke Detector</b> (photoelectric type) complete with all accessories like base, base box, etc. to be installed under/above false ceiling, roof and concealed space, etc. interconnecting to loop cable complete as required.	No	329		
2	Supply, installation, testing and commissioning of Analogue Addressable type <b>Heat Detector</b> (photoelectric type, Fixed cum-rate of rise type) with range from 60°C complete with all fixing accessories like base, base box, etc. to be installed under/above false ceiling, roof and concealed space, etc. interconnecting to loop cable complete as required.	No	14		
3	Supply, installation, testing and commissioning of Addressable type <b>Manual Call Point</b> (break glass type) complete with push button, enclosed in box with provision for cable or conduit coupling. The unit to be painted fire red outside, white inside and written 'In case of fire break glass'.	No	18		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
4	Supply, installation, testing and commissioning of Addressable loop powered <b>Hooter</b> at different locations complete with all fixing accessories, etc. under false ceiling, roof, wall, etc, with a time delay of max 30sec, interconnecting lo loop cable complete as required.	No	31		
5	Supply, installation, testing and commissioning of addressableFault <b>Isolators</b> , bases to protect one area or a number of devices with complete set to be installed under/above false ceiling, roof, concealed space, wall, etc. interconnecting to loop cable complete as required.	No	16		
6	Supply, Installation, Testing & Commissioning of <b>Analogue Addressable Fire Alarm Panel</b> with 4 loops including battery backup. The panel shall be microprocessor based with its own micro controller, memory, communication module and fire device loop. Each Loop capable of connecting total of 240 devices.				
	The panel shall have 17 Ah SMF Battery (or more), Keypad operation, L C D unit to indicate Fire / Fault Signal of individual unit, complete in all respects. operation of speakers. The Panel shall have :				
	Loop connected devices include detectors, call-points, loop isolators, Hooter.				
	The Panel shall also have Logic hardware and software built into it for initiating specific tripping, time delay operation of hooter and others as follows :				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	(a) programming software for the system				
	(b) automatic system test activates				
	(c) detector sensitivity adjustments				
	(d) alarm verification				
	(e) Alpha/numerical display				
	(f) provision to connect to PCs and external printers				
		set	1		
7	Supply and laying of 2x 1.5sq.mm copper armoured FRLS cable ISI marked with proper clamping, supports and terminations.	M	2033		
8	Supply, installation, testing and commissioning of <b>Response Indicator</b> compatible with all the fire detectors.	No	169		
9	Supply of Analogue Addressable <b>Control modules</b> including all accessories.	No	46		
10	Supply of Analogue Addressable <b>Monitor modules</b> including all accessories.	No	18		
11	Supply, installation, testing and commissioning of Analogue Addressable type <b>Multisensor Detector</b> (combination of photoelectric & heat type) complete with all accessories like base. base box, etc. to be installed under/above false ceiling, roof and concealed space, etc. interconnecting to loop cable complete as required.	No	20		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	<b>FIRE HYDRANT SYSTEM</b>				
12	<p>Supply, installation, testing and commissioning of <b>Diesel Engine driven main fire pump</b> suitable for automatic operation and consisting of following: complete in all respect as required.</p> <p>(a) Horizontal type, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm.at highest and farthest outlet at specified flow of <b>2280 lpm at 75 m.</b> head conforming to IS 1520</p>				
	<p>(b) Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant BS &amp; IS standard complete with auto starting mechanism, 12 volts/24 Volts electric starting equipment, Diesel Tank , exhaust pipe extended up to 1 m. above terrace level, duly insulated with 50 mm. thick glass wool with 1.0 mm. thick aluminium sheet cladding ( within building) , residential silencer, instruments and protection as per specification, stop solenoid for auto stop in the event of fault with audio indications, painted with posts office red colour etc. as required.</p> <p>(c) M.s.fabricated Common base plate coupling, coupling guard, foundation bolts etc. as required.</p> <p>(d) Suitable reinforced cement concrete foundation duly plastered with anti vibration pads.</p>	set	1		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
13	<p>Supply, installation, testing and commissioning of <b>Electric driven main fire pump</b> suitable for automatic operation and consisting of following: complete in all respect as require.</p> <p>(a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body &amp; bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of <b>2280 lpm at 75m.</b> head conforming to IS 1520.</p>				
	<p>(b) Suitable HP SO cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS- 325.</p> <p>(c) M.S. fabricated Common base plate, coupling, coupling guard, vibration eliminator, foundation bolts etc. as required.</p> <p>(d) Suitable reinforced cement concrete foundation duly plastered, also provided with anti vibration pads.</p>	set	2		
	<p><u>Note:</u> Though supply &amp; preparation of foundation are included in this contract, the rate shall be paid accoring to the corresponding rates in Civil schedule of rates.</p>				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
14	<p>Supply, Installation, testing and commissioning of electric driven pressurisation(<b>Jockey</b>) <b>pump</b> suitable for automatic operation and consisting o following: complete in all respect as required.</p> <p>(a) Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal and flow of <b>180 lpm at 75 m.</b> head conforming t IS : 1520.</p>				
	<p>(b) Suitable HP SQ cage induction motor TEFC type suitable for operation of 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325, and also with a delay timer of max 30 sec to avoid frequent starts.</p> <p>(c) M.S. fabricated Common base plate, coupling, coupling guard, vibration eliminator, foundation bolts etc. as required.</p> <p>(d) Suitable reinforced cement concrete foundation duly plastered with anti vibration pads.</p>	set	1		
15	<b>Main Fire Pump Panel</b>				

<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
<p>Fabricating, supplying of cubicle type floor mounted panel made out of 14 SWG MS sheet complete with contactors, auxiliary contacts, indicating lamps, fuses,</p> <p>a. Automatic Star Delta type Motor Starter including connections complete as required : for Main Electric &amp; Sprinkler Electric pumps ( total 2 Nos.)</p> <p>b. Automatic DOL type motor starter including connections complete as required : for Jockey Pump.</p> <p>c. Panel shall be enclosed and with all necessary components for 2nos Main Fire Pumps and 1 No Jockey Pump, complete in all respects including necessary control wiring as per the details given below. Include all necessary terminal wires for remote start.</p> <p>d. Dedicated Feeder &amp; Battery Charger for 120 AH , 12V battery of Standby Engine Driven pump, shall be included</p>				
<b>Incoming</b>				
1)400 Amps FP ISOLATOR - 1 no				
2) 2 A Control MCB - 3 Nos				
3) RYB Indication Lamps (LED type )- 1 set				
4) Bus bar chamber with 400 Amps Aluminium Bus Bar, suitable for 3 phase and neutral system- 1 set				
5) Required no of auxiliary contacts				
<b>Outgoing</b>				
1) 200 Amps FP ISOLATOR - 3 No.				
2) 63 Amps FP ISOLATOR - 1 nos				
3) 40 Amps FP ISOLATOR - 1 nos				
4) Automatic Star Delta Starter (75 HP) with LED illuminated On OFF push button - 2 No				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	5) Automatic DOL Starter ( 12.5 HP ) with LED illuminated ON OFF push button - 1 no				
	6) Auxiliary contacts for Pumps				
	7) Auto Manual Selector Switch with Control wiring for Main Hydrant, Sprinkler & Jockey Pump				
	9) Annunciator with hooter accept / reset & control wiring				
	Above panel to be supplied with suitable capacity power & control wiring to provide control power supply in case of power failure and with all the necessary accessories for suitable operation of the pumps.	set	1		
16	Supply, installation, testing and commissioning of <b>pressure gauge</b> 0-200 PSI ( 0 - 14 Kg ) range, 3/8" BSP bottom entry, 4" dial weather proof with stainless steel internals, siphon tube and ball valve including fittings, etc. complete as required	no	5		
17	Supply, installation, testing and commissioning of industrial type <b>pressure switch</b> having 1/4" BSP(F) connection IP:32 enclosure protection, phosphor bronze bellows as sensing element, SDPT contact system, switch rating 6A Inductive/IOA resistive 380 V AC, 0.2A Inductive/10A resistive 250V DC suit with ball valve etc. complete as required.	no	4		



	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
18	Supplying and fixing <b>air vessel</b> made of 250 mm dia 8 mm thick MS sheet, 1200 mm. In height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia Gun metal wheel valve, with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	set	1		
19	Providing, laying, testing & commissioning of 'C' class heavy duty GI pipe conforming to IS 3589 and 1239 including drop forged fittings like elbows, tees flanges, tapers, nuts bolts, gaskets etc., fixing the pipe on the wall/ceiling with suitable clamps and painting with primer and two or more coats of synthetic enamel paint of required shade complete as required.				
19.01	200mm dia	M	27		
19.02	150mm dia	M	210		
19.03	80 mm dia	M	9		
19.04	65 mm dia	M	5		
19.05	25 mm dia	M	27		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
20	Providing, laying, testing & commissioning of 'C' class heavy duty <b>GI</b> pipe conforming to IS 3589 / 1239 including drop forged fittings like elbows, tees flanges, tapers, nuts bolts, gaskets etc. in ground including excavation & providing cement concrete blocks as supports, as per drawings, anticorrosive wrapping coating min 2mm thick as per IS10221, refilling the <b>trench</b> with compaction etc. of following sizes complete as required.				
	150 mm dia	m	23		
21	Providing, installation, testing and commissioning of C.I., dual plate <b>non-return valve</b> of following sizes confirming to IS : 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required.PN1.6				
21.01	150 mm dia	no	4		
21.02	65 mm dia	no	1		
22	Providing, installation, testing and commissioning of dual plate <b>non-return valve</b> of following sizes confirming to IS : 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required. P.N.1.6				
	200 mm dia	no	1		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
23	Supply, installation, testing and commissioning of <b>Gun metal fire hydrant valve</b> , Single headed oblique type 63 mm instantaneous outlet with female socket for hose connection and inlet side with flange suitable for 80mm pipe flange, valve conforming to IS:5290 complete with blank cap chain, etc. <b>(Landing Valve)</b>	no	21		
24	Supplying and fixing <b>First-aid Hose Reel</b> with MS construction spray painted in Post office Red, conforming to IS 884 with up to date amendments, complete with the following as required. (a) 30 m. long 20 mm (nominal internal dia water hose Thermoplastic (Textile reinforced) Type-2 as per IS: 12585				
	(b) 20 mm (nominal internal ) dia gun metal ball valve & nozzle.				
	(c) Drum and brackets for fixing the equipments on wall. (d) Connections from riser with 40 mm dia stop valve (gun metal) & M.S. Pipe	set	16		
25	Supplying and fixing 63 mm dia, 15 mtr. Long <b>RRL hose pipe (Canvas hose)</b> with 63 mm dia Male and Female Gun metal couplings duly binded with GI wire, rivets etc. conforming to IS 636 (type-A) as required.	no	42		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
26	Supplying & fixing 63 mm dia, Short <b>Gun metal branch pipe</b> with 20 mm (nominal internal diameter) size Gun Metal nozzle conforming to IS 903, suitable for instantaneous connection to inter-connect hose pipe coupling as required.	no	21		
27	Supply, installation, testing and commissioning of <b>hose boxes</b> wall/pedestal type of size 750 x 250 x 600 mm made out of 16 SWG MS sheet steel with front side glass, locking arrangement and painted with approved colour completed as required and as per drawing & specifications.	no	21		
28	Supply, installation, testing and commissioning of Fire Brigade Connections				
28.01	Supply, installation, testing and commissioning of <b>Fire brigade collective breaching</b> with 4 nos. of (twin Siamese) 150 mm flanged out let connection and built in check valves complete as required.	set	1		
28.02	<b>Fire brigade tank filling Inlet</b> with 4 nos. of (twin Siamese) 150 mm flanged out let connection and built in check valves complete as required.	set	1		
29	Supply, installation, testing and commissioning of Brass <b>Air release valve</b> , size 25mm with threaded inlet & provide with ball type float.	set	4		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	<b>SPRINKLER SYSTEM</b>				
30	Providing, laying, testing & commissioning of 'C' class heavy duty GI pipe conforming to IS 3589 and 1239 including drop forged fittings like elbows, tees flanges, tapers, nuts bolts, gaskets etc., fixing the pipe on the wall/ceiling with suitable clamps and painting with primer and two or more coats of synthetic enamel paint of required shade complete as required.				
30.01	100 mm dia	m	365		
30.02	80 mm dia	m	243		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
30.03	65 mm dia	m	199		
30.04	50 mm dia	m	73		
30.05	40 mm dia	m	167		
30.06	32 mm dia	m	214		
30.07	25 mm dia	m	1326		
31	SITC of 100 mm <b>Sprinkler Alarm Valve</b> with water motor gong, test valves, drain valves complete with all accessories, set of pressure gauges, supports, etc.	no	1		
32	Providing, fixing, testing & commissioning of <b>sprinkler heads</b> of the following type :				
32.01	a) Pendant & rosette adjustable type with quartzond bulb operating temperature at 68 deg. C as per specification.	no	573		
32.02	b) Upright type with quartzond bulb operating temperature at 68 deg. C as per specification.	no.	325		
33	SITC of <b>CI butterfly valves</b> Slim seal Butterfly valves B 190 Class (PN1.6) complete with matching flanges Cast insitu - rubber insertion, nuts. bolts and washer etc. of following sizes				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
33.01	200 mm dia	no	5		
33.02	150 mm dia	no	11		
33.03	100 mm dia	no	16		
33.04	80 mm dia	no	1		
33.05	65 mm dia	no	1		
	<b>PORTABLE FIRE EXTINGUISHERS</b>				
34	Fire Extinguisher with ABC powder Cartridge operated (120 Gm IS 4947 ISI Mark) with Controllable discharge mechanism Class B Rating 21B as per IS 15683 ISI Mark. 5kg	no	51		
35	Fire Extinguisher of 4.5Kg capacity as per IS 15222 with controll discharge mechanism fitted with Bend and Horn applicable on Class B fire rating 21B confirms to IS 15683. bearing ISI Mark. Co2 Cylinder as per IS 7285	no	56		
36	Fire Extinguisher of 2 Kg capacity as per IS 15222 with controll discharge mechanism fitted with Bend and Horn applicable on Class B fire rating 21B confirms to IS 15683. bearing ISI Mark. Co2 Cylinder as per IS 7285	no	7		
	<b>SIGNAGES</b>				
37	Providing and installing in position the following type of sign boards made out of 3mm thick "Opaque" PVC foam board with computer cut, PVC non-reflective self adhesive vinyle painted foam board, complete with mirror fasteners.				



	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
37.01	Signage with printed "IN CASE OF FIRE, USE STAIRS UNLESS INSTRUCTED OTHERWISE" of 1.25cm height letters in red with white back ground.The size of the board shall be 25cm x 30 cm and shall be fixed at the height of 2 mts. from finished floor near Manual call points.	Each	16		
37.02	Floor indentification signage ( ie, GROUND FLOOR ,EXIT...etc.) at each stair enclosure on every floor, indicating the floor number in words, lettering size shall be 7.5 cm with contrasting colour from back ground.Size shall be 15cm x 60cm.	Each	16		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
38	Providing and fixing in position the signages " FIRE ORDER" it should contain the following matter on 3mm thick "Opaque" PVC foam board of computerised cut, PVC non-reflective self adhesive vinyle painted foam board of 3' x 4'.	Each	<b>16</b>		
	A) ALERT THE SECURITY AT SECURITY ROOM BY ACTUATING MANUAL CALL POINT LOCATED AT STRATEGIC LOCATIONS.				
	B) EVACUATE THE OCCUPANTS BY USING FIRE EXITS AND EMERGENCY EXITS ONLY AND ASSEMBLE AT VARIOUS ASSEMBLY POINTS.				
	C) IF POSSIBLE TRY TO EXTINGUISH THE FIRE BY USING NEAREST / SUITABLE PORTABLE EXTINGUISHER OR WATER FROM NEAREST WET RISER.				
	D) BE CALM AND DO NOT STAY PUT IN ANY ROOM FROM PANIC, WALK, DO NOT RUN.				
	E) IF YOU ENCOUNTER SERIOUS DIFFICULTY IN EVACUATION, STAY PUT AND TRY TO ATTRACT ATTENTION OF RESCUE TEAM.				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
39	ACTION BY SECURITY/RECEPTION UPON RECEIPT OF INFORMATION THROUGH FIRE ALARM OR FIRE DETECTORS OR BY USING PUBLIC ADDRESS SYSTEM.	Each	1		
	A) ALERT THE OCCUPANTS BY USING PUBLIC ADDRESS SYSTEM.				
	B) INFORM FIRE CONTROL THROUGH ANY ONE OF THE FOLLOWING PHONE NUMBERS: 101/ ( other local Numbers))				
	C) REFER EVACUATION PLAN FROM EVACUATING STANDARD PEOPLE.				
	D) GUIDE THE FIRE FORCE, ON THEIR ARRIVAL TO THE SEAT OF FIRE.				
	E) IN CASE OF THE CASUALTIES, CALL AMBULANCE BY DIALLING NUMBER 101				
	FIRE FIGHTING AGENCY -----				
	PHONE : -----				
	FAX : -----				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	<b>LT CABLING &amp; CABLE TERMINATION</b>				
40	Supply of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured <b>Aluminium cable</b> conforming to IS 7098 (Part 1) amended upto date.				
	3.5Cx240 sq.mm	Mtr	160		
41	Supply of 650/1100 Volts <b>Power Cables</b> XLPE Insulated, Cores Laid Up, Thermoplastic Tape Inner Sheathed, <b>armoured</b> and Extruded PVC Type ST2 Outer Sheathed As Per IS-7098 (Part 1) 1988 with Up To Date Amendments.				
41.01	3Cx95 sq.mm with aluminum Conductor	Mtr	20		
41.02	3Cx10 sq.mm with Copper Conductor	Mtr	10		
42	Supply of PVC insulated Armoured copper control cable & termination of the same with all accessories required , strictly conforming to IS:1554 (part I) 1964 of the following sizes for control				
	6C x 1.5 sqmm	Mtr	100		
43	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
43.01	Upto 35 sq. mm	Mtr	1		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
43.02	Above 35 sq. mm and upto 95 sq. mm	Mtr	31		
43.03	Above 185 sq. mm and upto 400 sq. mm	Mtr	160		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
44	Laying and fixing of one number PVC insulated and PVC sheathed/ XLPE power cable of 1.1 KV grade of following size on cable tray as required.				
44.01	Upto 35 sq. mm (clamped with 1mm thick saddle)	Mtr	60		
44.02	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Mtr	60		
45	Supplying and making indoor end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium /copper conductor cable/ Copper flat cable of 1.1 KV gradeas required.				
45.01	3.5Cx240 sq.mm	Nos	4		
45.02	3Cx 95 sq.mm	Nos	4		
45.03	3Cx10 sq.mm	Nos	2		
	<b>SUBTOTAL FOR (PART 1)(CARRIED OVER TO SUMMARY OF COST)</b>				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	<b>PART 2 - HOSTEL BLOCK</b>				
	<b>FIRE ALARM SYSTEM</b>				
46	Supply, installation, testing and commissioning of Conventional type <b>Manual Call Point</b> (break glass type) complete with push button, enclosed in box with provision for cable or conduit coupling. The unit to be painted fire red outside, white inside and written 'In case of fire break glass'.	no	16		
47	Supply, installation, testing and commissioning of <b>Hooter</b> cum Speaker at different locations complete with all fixing accessories, etc. under false ceiling, roof, wall, etc, interconnecting lo loop cable complete as required.	no	16		
48	Supply, Installation, Testing & Commissioning of Conventional <b>Fire Alarm Panel</b> with 8 Zones including battery backup. The panel shall be microprocessor based. Suitable for operation on 230V +/- 10 % AC Supply.	set	1		
	The panel shall have Suitable SMF Battery (or more), Toggle switch operation, LED lamps to indicate Fire / Fault Signal of individual Zone Cards, complete in all respects. Alarm circuit for operation of speakers. The Panel shall have :				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	Loop input circuit to connect call-points, Hooter.				
	(a)Manual system test activates				
	(b) alarm verification				
49	Supply and laying of 2x 1.5sq.mm copper armoured FRLS cable ISI marked with proper clamping, supports and terminations.	M	850		
	<b>FIRE HYDRANT SYSTEM</b>				
50	a) Supplying, Installation, testing and commissioning of electric driven pump ( <b>terrace pump</b> ) sets suitable for automatic operation and consisting electrical control panel with DOL starter and accessories of the following complete in all respect as required				
	Pump rated for <b>900lpm, 30m</b> head C.I body volute type coupled with suitable HP SQ cage induction motor,synchronous speed 2900rpm, suitable for operation on 415V, 3phase 50Hz, AC with IP 55 class of protection for enclosure, horizontal foot mounted type with class F insulation,				
	M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required.				
	Suitable cement concrete foundation duly plastered with anti vibration pads.	set	1		
51	<b>Terrace Fire Pump Panel</b>				



<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
<b>Supply, installation, testing &amp; commissioning of Fire Pump Panel</b>				
Fabricating, supplying of cubicle type floor mounted panel made out of 14 SWG MS sheet complete with contactors, auxiliary contacts, indicating lamps, fuses, automatic DOL type motor starter including connections complete as required : Panel shall be enclosed and with all necessary components for 1 no. terrace pump complete in all respects including necessary control wiring as per the details given below.Include all necessary terminal wires for remote start.				
<b>Incoming</b>				
1)63Amps FP ISOLATOR - 1 no				
2) 2 A Control MCB - 2Nos				
3) RYB Indication Lamps (LED type )- 1 set				
4) Bus bar chamber with 63Amps Aluminium Bus Bar, suitable for 3 phase and neutral system- 1 set				
5) Required no of auxiliary contacts				
<b>Outgoing</b>				
3) 32Amps FP ISOLATOR - 1 nos				
16Amps FP ISOLATOR - 1 nos Spare				
5) Automatic DOL Starter ( 10 HP ) with LED illuminated ON OFF push button - 1 no				
7) Auxiliary contacts for Pump				
7) Auto Manual Selector Switch with Control wiring				
9) Annunciator with hooter accept / reset & control wiring				
Above panel to be supplied with suitable capacity power & control wiring to provide control power supply in case of power failure and with all the necessary accessories for suitable operation of the pump	set	1		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
52	Supply, installation, testing and commissioning of <b>pressure gauge</b> 0-200 PSI ( 0 - 14 Kg ) range, 3/8" BSP bottom entry, 4" dial weather proof with stainless steel internals, siphon tube amd ball valve including fittings, etc. complete as required	no	1		
53	Supply, installation, testing and commissioning of industrial type <b>pressure switch</b> having 1/4" BSP(F) connection IP:32 enclosure protection, phosphor bronze bellows as sensing element, SDPT contact system, switch rating 6A Inductive/IOA resistive 380 V AC, 0.2A Inductive/10A resistive 250V DC suit with ball valve etc. complete as required.	no	1		
54	Providing, laying, testing & commissioning of 'C' class heavy duty GI pipe conforming to IS 3589 and 1239 including drop forged fittings like elbows, tees flanges, tapers, nuts bolts, gaskets etc., fixing the pipe on the wall/ceiling with suitable clamps and painting with primer and two or more coats of synthetic enamel paint of required shade complete as required.				
54.01	100mm dia	M	227		
54.02	80 mm dia	M	5		
54.03	25 mm dia	M	10		
55	Providing, installation, testing and commissioning of dual plate <b>non-return valve</b> of following sizes confirming to IS : 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required.PN1.0				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	100 mm dia	no	2		
56	Supply, installation, testing and commissioning of <b>Gun metal fire hydrant valve</b> , Single headed oblique type 63 mm instantaneous outlet with female socket for hose connection and inlet side with flange suitable for 80 mm pipe flange, valve conforming to IS:5290 complete with blank cap chain, etc. <b>(Landing Valve)</b>	no	8		
57	Supplying and fixing <b>First-aid Hose Reel</b> with MS construction spray painted in Post office Red, conforming to IS 884 with up to date amendments, complete with the following as required.  (a) 30 m. long 20 mm (nominal internal dia water hose Thermoplastic (Textile reinforced) Type-2 as per IS: 12585	set	8		
	(b) 20 mm (nominal internal ) dia gun metal ball valve & nozzle.				
	(c) Drum and brackets for fixing the equipments on wall. (d) Connections from riser with 40 mm dia stop valve (gun metal) & M.S. Pipe				
58	Supplying and fixing 63 mm dia, 15 mtr. Long <b>RRL hose pipe (Canvas hose)</b> with 63 mm dia Male and Female Gun metal couplings duly binded with GI wire, rivets etc. conforming to IS 636 (type-A) as required.	no	16		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
59	Supplying & fixing 63 mm dia, Short <b>Gun metal branch pipe</b> with 20 mm (nominal internal diameter) size Gun Metal nozzle conforming to IS 903, suitable for instantaneous connection to inter-connect hose pipe coupling as required.	no	8		
60	Supply, installation, testing and commissioning of <b>hose boxes</b> wall/pedestal type of size 750 x 250 x 600 mm made out of 16 SWG MS sheet steel with front side glass, locking arrangement and painted with approved colour completed as required and as per specifications & drawings.	no	8		
61	Supply, installation, testing and commissioning of <b>Fire brigade breaching</b> inlet with 2 nos. of 65mm G.M. inlets and with 100 mm flanged out let connection and built in check valves complete as required.	set	1		
62	Supply, installation, testing and commissioning of G.M. <b>Air re</b>	set	1		
63	SITC of <b>CI butterfly valves</b> Slim seal Butterfly valves B 190 Class (PN1.0) complete with matching flanges rubber insertion( cast in situ), nuts. bolts and washer etc. of following sizes,				
	100 mm dia	no	3		
	<b>PORTABLE FIRE EXTINGUISHERS</b>				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
64	Fire Extinguisher with ABC powder Cartridge operated (120 Gm IS 4947 ISI Mark) with Controllable discharge mechanism Class B Rating 21B as per IS 15683 ISI Mark. 5kg	no	33		
65	Fire Extinguisher of 4.5Kg capacity as per IS 15222 with controll discharge mechanism fitted with Bend and Horn applicable on Class B fire rating 21B confirms to IS 15683. bearing ISI Mark. Co2 Cylinder as per IS 7285 with PESO APPROVED	no	10		
66	Fire Extinguisher of 2 Kg capacity as per IS 15222 with controll discharge mechanism fitted with Bend and Horn applicable on Class B fire rating 21B confirms to IS 15683. bearing ISI Mark. Co2 Cylinder as per IS 7285 with PESO APPROVED	no	1		
	<b><u>SIGNAGES</u></b>				
67	Providing and installing in position the following type of sign boards made out of 3mm thick "Opaque" PVC foam board with computer cut, PVC non-reflective self adhesive vinyle painted foam board, complete with mirror fasteners.				
67.01	Signage with printed "IN CASE OF FIRE, USE STAIRS UNLESS INSTRUCTED OTHERWISE" of 1.25cm height letters in red with white back ground.The size of the board shall be 25cm x 30 cm and shall be fixed at the height of 2 mts. from finished floor near Manual call points.	Each	4		

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
67.02	Floor identification signage ( ie, GROUND FLOOR ,EXIT...etc.) at each stair enclosure on every floor, indicating the floor number in words, lettering size shall be 7.5 cm with contrasting colour from back ground.Size shall be 15cm x 60cm.	Each	16		
68	Providing and fixing in position the signages " FIRE ORDER" it should contain the following matter on 3mm thick "Opaque" PVC foam board of computerised cut, PVC non-reflective self adhesive vinyle painted foam board of 3' x 4'.				
68.1	A) ALERT THE SECURITY AT SECURITY ROOM BY ACTUATING MANUAL CALL POINT LOCATED AT STRATEGIC LOCATIONS.	Each	4		
	B) EVACUATE THE OCCUPANTS BY USING FIRE EXITS AND EMERGENCY EXITS ONLY AND ASSEMBLE AT VARIOUS ASSEMBLY POINTS.				
	C) IF POSSIBLE TRY TO EXTINGUISH THE FIRE BY USING NEAREST / SUITABLE PORTABLE EXTINGUISHER OR WATER FROM NEAREST WET RISER.				
	D) BE CALM AND DO NOT STAY PUT IN ANY ROOM FROM PANIC, WALK, DO NOT RUN.				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	E) IF YOU ENCOUNTER SERIOUS DIFFICULTY IN EVACUATION, STAY PUT AND TRY TO ATTRACT ATTENTION OF RESCUE TEAM.				
68.2	ACTION BY SECURITY/RECEPTION UPON RECEIPT OF INFORMATION THROUGH FIRE ALARM OR FIRE DETECTORS OR BY USING PUBLIC ADDRESS SYSTEM.	Each	1		
	A) ALERT THE OCCUPANTS BY USING PUBLIC ADDRESS SYSTEM.				
	B) INFORM FIRE CONTROL THROUGH ANY ONE OF THE FOLLOWING PHONE NUMBERS: 101/ ( other local Numbers))				
	C) REFER EVACUATION PLAN FROM EVACUATING STANDARD PEOPLE.				
	D) GUIDE THE FIRE FORCE, ON THEIR ARRIVAL TO THE SEAT OF FIRE.				
	E) IN CASE OF THE CASUALTIES, CALL AMBULANCE BY DIALLING NUMBER 101				
	FIRE FIGHTING AGENCY -----				
	PHONE : -----				
	FAX : -----				

	<b>FIRE ALARM SYSTEM</b>	Unit	Qty	Rate	Amount
	<b>LT CABLING &amp; CABLE TERMINATION</b>				
70	Supply of following size 1.1 KV grade XLPE insulated, PVC sheathed, armoured <b>Aluminium cable</b> conforming to IS 7098 (Part 1) amended upto date.				
	3.5Cx35 sq.mm	Mtr	55		
71	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
	Upto 35 sq. mm	Mtr	70		
72	Supplying and making indoor end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium /copper conductor cable/ Copper flat cable of 1.1 KV gradeas required.				
72.01	3.5Cx35 sq.mm	Nos	2		
72.02	3Cx10 sq.mm	Nos	2		
	<b>Sub Total for Part 2</b>				