

**SECTION I**  
**CIVIL AND CENTRAL SUPERVISION**

BHEL:BAP:RANIPET

CIVIL PROJECTS & SERVICES

**Section I** : Civil works for furbishment work in D3 & D4 module at IIT-M-RP, Taramani, Chennai

Sl. No.	Description	Qty	Unit	Rate	Amount
1	Cement concrete pavement with 1:2:4 (1 cement : 2 coarse sand ; 4 graded stone aggregate 20 mm nominal size) including finishing complete	25	cu.m		
2	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
a	Brick work in cement mortar	0.45	cu.m		
3	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and paneling to be paid for separately) :				
a	For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron)	1600.00	Kg.		
b	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of PVC / neoprene gasket required (Fittings shall be paid for separately). For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron)	20.00	Kg.		
4	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in- charge . (Cost of aluminium snap beading shall be paid in basic item):				
a	With itching glass (Printed glass) panes of 4.00 mm thickness	60.00	sq.m		
5	providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS : 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer - in - charge				
a	Pre-laminated particle board with decorative lamination on both sides.	190.00	sq.m		

6	Supplying and fixing of vertical blinds of Vista or equivalent approved brand vertical blinds 100mm in approved colours & shade as approved by the Engineer - in - charge. Rate to include cost of all materials for supply & fixing of vertical blinds for the existing window openings.	10.00	sq.m		
7	Providing and fixing 15 mm thick EXCEL-TONE MR VENUS III pattern revealed edge type Manufactured by M/s DAIKEN Corporation ,Mineral Fibre False Ceiling Tiles or equivalent of size 600x600 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanised @170 gsm/sqm.) consisting of main "T" runner suitably spaced at joints to get required length and of size 24x 38 mm made from 0.30 mm thick (minimum) sheet spaced at 1200 mm center to center and cross "T" of size 24x25mm made of 0.30mm thick (minimum) sheet, 1200mm long spaced between main "T" at 600mm center to center to form a grid of 1200x600mm and secondary cross "T" of length 600mm and size 24x25mm made of 0.30mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm and laying 15mm thick mineral fibre false ceiling tiles of approved texture in the grid including, wherever, required, cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors, etc. Main "T" runners to be suspended from ceiling to be suspended from ceiling using GI slotted cleats fixed to ceiling with 6mm diameter and 50mm long dash fasteners, 4mm GI adjustable rods with galvanised level clips spaced at 1200mm center to center along main "T" bottom exposed with 24mm of all "T" sections shall be pre-painted with polyester paint, all complete at all heights as per the specifications, drawings and as directed by the Engineer-in-charge	500.00	sq.m		
8	Providing and laying rectified glazed ceramic floor tiles 300mm X 300mm or more with in bracket (thickness to be specified by the Manufacturer) of first quality confirming to IS : 15622 of approved make in colours white, Ivory, grey, fume red brown, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete.	480.00	sq.m		
9	Supplying & fixing of Gareware brand or Equivalent approved brand SUN CONTROL FILM premium grade with scratch resistant coating (SRC) reflective type with solar energy rejection about 78% & glare reduction about 82 % in approved colour & shade as approved by the Engineer-in-charge. Rate to include cost of all materials for Supply & Fixing of sun control film for the windows.	20.00	sq.m		
10	Providing and fixing Unitile USF - 1200 Raised Access Floor system up to a finished floor height of 450mm . The panel size of 600mm X 600mm shall be all steel construction with cementitious core and the top surface shall be antistatic laminate with edge protected with 5mm black trim.FFH : 450mm & F - 84 Laminte. The sub structure shall be of galvanised pipes and base with a pedestal head and PVC cap for locating panel and stringer in position at all times. The entire sub structure is rigidly held in position with galvanised stringers of suitable size recommended by manufacturer M/s United Access floors pvt. Ltd.	20.00	sq.m		

11	Distemping with first quality acrylic distemper (ready mixed) of approved manufacturer and of required shade and colour complete, as per manufacturers specification. TWO OR MORE COATS.	750.00	sq.m		
12	Architectural Services	1.00	No		
	Total Rs.				
(Rupees in words:					

**SECTION II**  
**ELECTRICAL**



**Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,Ranipet,632 406.**

**Section II: Name of work: Electrification of BHEL @ IIT-M Research park at Chennai**

SL NO	Description of Work	Qty Unit	Rate	Amount
1	Supplying, laying & commissioning of 4x35 Sq mm PVC insulated, armoured, 1100 V grade, multistrand copper cable, Finolex / KEI / Lapp / OMEX / MARDIA make cable clamped on wall / ceiling / floor as <u>incoming cable</u> from IIT-MRP's terminal point to the proposed area.	100 m		
2	Supply, erection, testing and commissioning of cubical type switch board wall mounted type, fabricated with 16 guage CRCA sheet with the followings. Busbar consists of 25 x 6 mm electrolytic quality copper busbars well supported for all phase and neutral, the busbar shall be colour coded PVC sleeving. Switch Fuse Units shall be L&T / Controls & Switchgear ( C&S ) / GE / Siemens make.	01 No		
	a. 125 A TPN Switch Fuse Unit – 1 No as incoming.			
	b. 63 A TPN Switch Fuse Unit – 6 Nos as outgoing.			
	c. RYB Indication lamp - 1 Set			
	d. Ammeter, Voltmeter - 1 Set			
3	Supplying, erecting and commissioning of TPN MCB Distribution Board, MDS Loadster / SIEMENS / Hager make, fixed flush with wall. DB shall be double door with comprising the following items. 63 A TPN MCB-1 No as incomer and 10 A SP MCB x 24 No as outgoing concealed on wall / within wall panel work.	01 No		
4	Supplying and fixing of MCB Distribution Board of MDS Loadster / SIEMENS / Hager make, with 63 A TPN MCB - 1 No as incoming , 63 A DP MCB x 3 Nos and 20 A SP MCB x 12 Nos as outgoing along with copper wire interconnections etc for,	02 No		
	a. Raw power Distribution Board.			
	b. UPS power Distribution Board.			
5	Supplying, laying & commissioning of 4 runs of 10 Sq mm and 1x4 Sq mm Multistrand, PVC insulated, copper wire of Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make, laid in suitable MS conduit clamped & concealed on wall / ceiling / floor , laying on tray ducts etc as per site condition. The cable has to be laid as follows.	150 m		
	a. From Main Power Panel to Lighting DB.			
	b. From Main Power Panel to Raw power DB.			
	c. From Main Power Panel to UPS DB.			
	d. From Main Power Panel to 3Ø 30 A socket- Work bench area			
	e. From Main Power Panel to 3Ø 30 A TPN MCB DB - For Server			

6	Supplying, laying & commissioning <u>Circuit Mains</u> wiring with 3 runs of 2.5 Sq mm, PVC insulated, flexible multistrand copper wire, Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make, laid within suitable MS conduit concealed on wall/ceiling/floor/wall panel etc as per site condition laid as follows.	600 m			
	a. From Lighting DB to various lighting circuit.				
	b. From Raw power DB to 6A switched sockets.				
	c. From UPS DB to 6A switched sockets of all desk or table.				
7	Supplying, laying & commissioning of <u>Circuit Mains</u> wiring with 2 runs of 4 Sq mm and 1 run of 2.5 Sq mm, PVC insulated, flexible multistrand copper wire Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make, laid within suitable MS conduit concealed on wall/ceiling/floor/wall panel etc as per site condition laid as follows.	300 m			
	From Raw power DB to 16A switched sockets				
8	Supply and wiring with 2 runs of 1.5 Sq mm, PVC insulated, flexible multistrand copper wire Finolex FRLS / L&T / KEI / Lapp / OMEX MARDIA make, laid within suitable MS conduit concealed on wall/ceiling/floor/wall panel along with ANCHOR ROMA / LEGRAND / LEON make switches fixed flush with wall/partition as described below.				
	a. 1 Light controlled by 1 switch				25 pts
	b. 2 Lights controlled by 1 switch				15 pts
	c. 3 Lights controlled by 1 switch				08 pts
	d. 4 Lights controlled by 1 switch				07 pts
9	Supply and wiring with 3 runs of 2.5 Sq mm, PVC insulated, flexible multistrand copper wire Finolex FRLS / L&T / KEI / Lapp / OMEX MARDIA make, laid within suitable MS conduit concealed on wall/ceiling/floor/wall panel/partition for 6 A switched sockets as follows. For wiring length up to 3 Mtr depending upon site condition.		-		
	a. From circuit mains of SL.No 06(b) to 6 A Raw power switched sockets.				48 pts
	b. From circuit mains of SL.No 06(c) to 6 A switched sockets on all tables / desks ( UPS power).				48 pts
10	Supply and wiring with 2 runs of 4 Sq mm and 1 run of 2.5 Sq mm, PVC insulated, flexible multistrand copper wire Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make, laid within suitable MS conduit concealed on wall/ceiling/floor/wall panel/partition etc for 16A switched sockets. For wiring length up to 3 Mtr depending upon site condition.		-		
	a. From circuit mains of SL.No 07 to 16 A Raw power switched sockets.				15 pts

11	Supply and fixing of ANCHOR ROMA / LEGRAND / LEON make 6A switched socket fixed flush with wall or partition as described below.			
	a. <b>White colour switch board</b> – 1 No switched socket with 1 flush box for <b>Raw power</b> on wall/ partition.	48 Nos		
	b. <b>Ivory colour switch board</b> – 2 No switched socket with 1 flush box for <b>UPS power</b> on all desks / table.	48 Nos		
12	Supply and fixing of ANCHOR ROMA / LEGRAND / LEON make 16A switched socket fixed flush with wall or partition as <b>Raw power plug points</b> , fitted with <b>white colour switch board</b> .	15 Nos		
13	Making end termination including supply of suitable eye / pin socket, gland etc for.		-	
	a. 4x35Sq mm Armoured copper cable.	02 Nos		
	b. 4 runs of 10Sq mm flexible multistrand copper cable of SL.No 5	08 Nos		
14	Supply and fixing of 3 Ø, 415 V, 30 A switched socket BCH / L&T / SIEMENS make, along with plug top fitted in box of 1.2 mm sheet steel pre-treated and powder coated, with necessary fixtures etc on wall for work bench/common service area.	02 Nos		
15	Supply and providing 40mm Ø GI pipe earth electrode with salt charcoal, masonry work, chequerred plate cover etc as Earth pit for EB power.	02 Nos		
16	Supply and providing of UPS dedicated earth electrode using 600 x 600 x 3 mm Copper Plate along with 40 mm Ø GI pipe for water circulation, salt charcoal, masonry work, chequerred plate cover etc as Earth pit for UPS power.	02 Nos		
17	Supply and laying of the following, PVC insulated, multistrand, flexible Copper wires of Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make (or) Copper flat for earth connection.		-	
	a. 25x3 mm copper flat.	100m		
	b. 25 Sq mm, 1 core, multistrand flexible copper cable <b>Green</b> colour insulation.	50m		
	c. 16 Sq mm 1 core, multistrand flexible copper cable <b>Green</b> colour insulation.	50m		
	d. 10 Sq mm 1 core, multistrand flexible copper cable <b>Green</b> colour insulation.	25m		

	e. 8 SWG round bar copper wire.	50m		
18	Preparation of electrical drawing, liaisoning with TNEB authorities, obtaining approval for the electrical installations including safety certificate for energisation.	Ls		
19	Supply and fixing of " <u>Treatment for electric shock</u> " instructions in Tamil, Hindi & English framed and fixed on wall to ensure safety.	01 No		
20	Supply and providing 11Kv grade, ISI branded Gloves set in wooden box sprayed with dry chalk powder.	02 set		
21	Supply and providing 11Kv grade, ISI branded, 1800 mm x 1200 mm x 12 mm thick rubber mat in front of panel board.	02 Nos		
22	Supply & fixing of 2x36 W recessed mounted indirect down light, PHILIPS / GE / CROMPTON / WIPRO / make, with all accessories, fixed flush with false ceiling, <b><u>to ensure illumination level of 300 Lux</u></b> for Executive cabin, Meeting room, Team leader cabin, Project associate & general office areas of both D3 & D4 site.	30 Nos		
23	Supply & fixing of 1x36 W spot light recessed mounting light, PHILIPS / GE / CROMPTON / WIPRO / make, with all accessories, fixed flush with false ceiling, <b><u>to ensure illumination level of 200 Lux</u></b> for entrance halls and reception areas of both D3 & D4 site, as follows:			
	a. At Raw power lighting points	25 Nos		
	b. At Emergency lighting points with UPS power circuit	25 Nos		
24	Supply and wiring with 2 runs of 1.5Sq mm, PVC insulated, flexible multistrand copper wire Finolex FRLS / L&T / KEI / Lapp / OMEX / MARDIA make, in suitable MS conduit concealed on wall/ceiling/floor/partition along with ANCHOR ROMA / LEGRAND / LEON – <b><u>Ivory colour switch board + switch</u></b> assembly fixed flush with wall/partition as emergency circuit with <b>UPS power</b> .	25 pts		
25	Supply and providing FIRST AID BOX with complete medical kit at visible & accessible location.	01 No		
26	Supply and fixing of 30 A TPN MCB Distribution board of MDS Loadster / SIEMENS / HAGER make alongwith suitable box of 1.2 mm sheet steel pre-treated and powder coated DB as incomer for server unit.	01 No		
<b>Total Amount</b>				
	Amount in words: Rupees			

**SECTION III**  
**SUPPLY & ERECTION OF**  
**AIR CONDITIONING DUCT EXTENSION &**  
**COMPONENTS**

A/C Ducting & Split A/C works					
BILL OF QUANTITIES					
SL. No	DESCRIPTION OF ITEMS	Qty	Unit	Rate	Amount
	SHEET METAL WORK:				
1	Supply and installation of Sheet metal ducting out of GSS Sheets with self flanged, neoprene gascuts, 150mm GI metal cleats, Electro Galvanized bolts, nuts, & washers, GI suspension rods, anchor grip bolts, GI supports for ducts etc.				
	Rectangular GSS ducting:				
a.	0.8 mm thick ( 21 SWG)	66	Sqm		
b.	0.6 mm thick ( 23 SWG)	118	Sqm		
2	Supply and installation of Metalized core fire rated flexible ducts with totally encapsulated helically wound spring wire. The flexible duct shall consists of outer and inner jacket with 25 kg / cum density, 25mm thick fibre glass insulation in the middle. The price quoted shall include supports for the flexible duct. The diameter of the duct shall be as under.				
a.	250 mm Dia	42	Rmt		
b.	200 mm Dia	4	Rmt		
3	Supplying and installation of Volume control dampers made out of 1.6 mm thick, galvanized sheet steel frame and blades with linkages & operating handle for branch ducts.	3.30	Sq.mt		
4	Supply and Installation of Butterfly Dampers made out of 1.6mm thick galvanized sheet steel for SA round Collers.				
a.	250 mm dia	29	Nos.		
b.	200 mm dia	2	Nos.		
5	Supply and Installation of Powder coated, extruded al uminum, removable centre core type, supply & return air diffusers (Tegular type)with out collar damper of t he following neck sizes in 600 x 600 extended flange suitable for Armstrong false ceiling. The diffuser shall be suitable for to connect flexible duct.				
a	Outer Diffuser size of 600 x 600 with neck size of 450 x 450 (Tegular Type)	12	Nos		
b	Outer Diffuser size of 600 x 600 with neck size of 375 x 375 (Tegular Type)	8	Nos.		
c	Outer Diffuser size of 600 x 600 with neck size of 300 x 300 (Tegular Type)	38	Nos.		
6	Powder coated, extruded aluminum, removable centre core type, return air diffusers without volume control dampers & diffuser boxes (of aluminum) of the following neck sizes :				

a	Neck Size of 375 x 375 Standard Diffuser	8	Nos.		
7	Acoustic Lining :				
	Providing Acoustic Insulation for Supply and Return Air ducting using FM global approved Class 48 Kg/Cum Density 12mm thick resin bonded fibre glass rigid board with one side RP tissue + 28SWG Al. perforated sheet and necessary fixing accessories.				
a.	25 mm thick	63	Sqm.		
8	Thermal Insulation:				
	Thermal insulation for floor sheet metal rectangular ducting using Class co-polymeric compound nitrile rubber insulation with factory laminated Aluminum foil.				
a.	10 mm thick	99	Sqm.		
9	HI WALL SPLIT AIR CONDITIONERS :				
	Supply, installation, commissioning and proven the performance of Hi wall mount split AC with cordless remote control with necessary accessories and pipings etc as per the specifications given below with OEM				
a.	Cooling Capacity - 4500 K.Cal/Hr (or) 18000 BTU/Hr				
b.	No. of Indoor Unit - 01x1.5 Ton				
c.	Mounting - HI Wall Mounting				
d.	Make - Voltas, Blue Star, Carrier, O' General.				
e.	Compressor ( Requires 5 year warranty ) - 01x1.5 Ton of Rotary Compressor				
d.	Fan Motor - Permanently lubricated and concealed on both ends as per IS norms.				
e.	Power consumption - Not more than 2000 Watts				
f.	Power supply - 230 V $\pm$ 10% : 1 $\emptyset$ : 50 Hz.				
g.	Unit to be with energy saving compressor not less than 3 STAR rating as per BEE specification. Operation voltage range signifies the range of voltage for which the compressor can start and run up to 46° C.				
	Note : Supplier may be asked to clarify the terms and conditions of warranty replacement of defective compressor ( if compressor becomes defective ) within the warranty period.				
a.	1.5TR capacity high wall mounted type split air conditi oners complete with cordless remote control for <b>Conference Room ( D4 TRICHY )</b>	3	Nos		

b.	Supporting angle frame ( With Powder coated paint ) for resting Out Door Unit of Split AC	3	No		
10	Refrigerant copper piping between the indoor units and outdoor units including suction line insulation, etc. for the above units. The distance between the Indoor & Outdoor units taken as 20 mtr (pair of pipes consisting of suction line & liquid line per circuit) for the purposes of piping length inclusive of power cables and drain water (PVC Pipe ) line. Cost/Rm Rs 500/-				
a.	For 1.5 TR Air Cooled Hi wall Split units ( Excess Pipe length )	4	Nos		
11.	Supply and installation of fire retard canvas connection for Chilled water AHU	2	Sets		
12.	Factory made of Galvanized Sheet Metal Spill air boxes made out of 26 GI sheet for connecting the diffuser outlet & flexible	30	Nos		
	<b>GRAND TOTAL</b>				
<b>IN WORDS (Rs. )</b>					

**SECTION IV**  
**OFFICE MODULAR FURNITURE &**  
**WORKSTATION**

Section V: BOQ FOR GODREJ MODULAR FURNITURE FOR IIT-M RP					
REFER DRG BHEL IIT MRP:005/14					
	ITEM	TYPE	QTY	RATE	AMOUNT RS.
	<b>RECEPTIONROOM</b>				
1	RECEPTION DESK	FIRST IMPRESSSION	2		
2	RECEPTION CHAIRS	9402AF	2		
3	"	7112R	2		
4	3 SEATER SOFA	RIO	2		
5	COFFEE TABLE	ALICE	2		
	<b>TEAM LEADER CABIN</b>				
6	TEAMLEADER CABIN DESK	ICON	2		
7	ICON DESK ACCESSORIES	ICON	2		
8	TL CABIN CHAIRS	HALO	2		
9	"	HALO	4		
10	SOFA 3 SEATER	L43	2		
11	COFFEE TABLE	ALICE	2		
	<b>EXECUTIVE CABINS</b>				
12	EX CABINS' DESK	MARQUA	4		
13	CHAIRS	LEOMA	4		
14	"	LEOMA VISITOR'S	8		
	<b>MEETING ROOM</b>				
15	MEETING ROOM DESK	BOAT CONVEX	1		
16	M ROOM 7003 CHAIRS	9PO2C	10		
17	M ROOM CHAIRMAN'S CHAIR	KAREENA	1		
	<b>WORKSTATIONS</b>				
18	WORK STATION MODULES	STALLION	14		
19	CHAIRS	BRAVO	14		
	<b>SERVER ROOM AND</b>				
	<b>SERVICE AREA</b>				
20	TABLE	VI SEATER	2		
21	TABLE	T402	2		
	<b>GRAND TOTAL</b>				

**SECTION V**  
**COMPUTER NETWORKING**

<b>BHEL Ranipet</b>					
<b>Furbishment of D3 &amp; D4 Modules at 9th Floor of IIT-Madras Research Park</b>					
<b>Specn,BOQ and Estimate for Tender Enquiry floating for Computer Networking cables ,ports and panels</b>					
<b>S.No.</b>	<b>Item of Work</b>	<b>Unit</b>	<b>Qty</b>	<b>Unit rate</b>	<b>Total</b>
1	Supply & fixing of UTP CAT 6 DATA cable with ferrules in existing conduits in walls/partitions or laid in open fashion above false ceiling with necessary lamps,screws etc	MR	1500		
2	Supply & fixing of 2metre category 6 patch cords with RJ 45 packpin on both sides at I/O point end	No.	50		
3	Supply,fixing of face plate alongwith 2X RJ 45 Sockets in mounting boxes flush with I/O face plate at each I/O point(6A Connector EIA/TIA)	No.	25		
4	Supply & fixing of PVC base box with fasteners at I/O point end	No.	25		
5	Supply& fixing of 24 port jack panel	No.	2		
	<b>Total</b>				
Rs. In words:					

**SECTION VI**  
**FIRE PROTECTION & ACCESS CONTROL**  
**SYSTEM**

<b>SECTION VI -FIRE FIGHTING SYSTEM</b>					
<b>Sl.No</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
	<b>Part I: CONVENTIONAL FIRE ALARM SYSTEM - BHEL - 9TH FLOOR- D3 &amp; D4 SECTOR</b>				
1	Supply, Installation, Testing and Commissioning of 4 Zone Fire Alarm Panel with battery back up.	2	No		
2	Supply, Installation, Testing and Commissioning of Conventional Optical Smoke Detector.	50	Nos		
3	Supply, Installation, Testing and Commissioning of Heat Detector.	1	Nos		
4	Supply, Installation, Testing and Commissioning of Manual Call Point.	4	Nos		
5	Supply, Installation, Testing and Commissioning of Sounder.	4	Nos		
6	Response Indicator	21	Nos		
7	Supply and surface laying of 2 x 1.5 Sqmm armoured FRLS cable.	200	Mtrs		
8	4.5 Kg CO2 Extinguisher with all floor/wall mounting arrangement as required at site.	4	Nos		
9	5 Kg ABC with all floor/wall mounting arrangement as required at site.	2	Nos		
	<b>Part II: ACCESS CONTROL SYSTEM -BHEL 9th Floor</b>				
10	Supply, Installation, Testing and commissioning of 4 Reader controller with battery back up as specified in the Tender Specifications	1	Nos		
11	Supply, Installation, Testing and commissioning of Proximity Card Readers for Doors	3	Nos		
12	Supply, Installation, Testing and Commissioning of Electromagnetic Lock with required mounting brackets for all type of doors and with external surface / flush mounted (as required at site) Magnetic Contact door position sensor as per the tender specifications	3	Nos		
13	Supply, Installation, Testing and Commissioning of Resettable Emergency release box as per the tender specifications	3	Nos		
14	Press to Exit Switch	3	Nos		
15	Supply, Installation, Testing and Commissioning of Access software (1 Master + 1 Client)	1	Set		
16	Supply, Installation, Testing and commissioning of 8 core X 0.75 Sq mm shielded ATC PVC Sheathed Cable to connect Card Readers to controller in 1" FRLS PVC Conduit as specified in the Tender Specifications	75	Mtrs		

17	Supply, Installation, Testing and commissioning of 4 core X 0.75 sq.mm multistrand ATC Over all PVC Sheathed 7 Shielded Cable to connect Door magnetic contacts, EM Lock to controller in 1" FRLS PVC Conduit as specified in the Tender Specifications	25	Mtrs		
	<b>Part III: ESTIMATE FOR SPRINKLER SYSTEM - BHEL 9th Floor</b>				
18	MS Pipes, ERW, Heavy grade conforming to IS: 1239 for pipes upto 150mm dia. complete with fittings, Tees, Reducers, socket fittings, Elbows, etc., as required at site, supports, miscellaenous and consumables and Painting of the aboveground MS pipes/valves with one coat of metal primer and two coat of fire red enamel paint of approved quality with forged butt weldable fittings.				
a	100 NB, Heavy Class	20	Mts.		
b	80 NB, Heavy Class	24	Mts.		
c	65 NB, Heavy Class	12	Mts.		
19	MS Pipes, ERW, Heavy grade conforming to IS: 1239 for pipes upto 150mm dia. complete with fittings, Tees, Reducers, socket fittings, Elbows, etc., as required at site, supports, miscellaenous and consumables and Painting and consumables and Painting of the aboveground MS pipes/valves with one coat of metal primer and two coat of fire red enamel paint of approved quality with forged socket weldable fittings.				
a	32 NB, Heavy Class	12	Mts.		
b	25 NB, Heavy Class	150	Mts.		
20	100 NB Flow Switches with two NO and two NC contacts with necessary nipple & other fittings	2	Nos.		
21	standard response Glass bulb sprinkler pendent type rated 68 Deg. C	40	Nos.		
22	Two Piece adjustable Roset Plates	40	Nos.		
23	Dial type pressure guage for 100 mm dia pipe with necessary nipple & other fittings, mounting arrangements and with a 25 mm ball valve	2	Nos.		
24	25mm Ball valve	2	Nos.		
	<b>TOTAL - in Rs.</b>				
In word Rs.					