

<b>SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ELECTRICAL &amp; OTHER SERVICES WORKS FOR PROPOSED AMRIT PHARMACY AT RAM MANOHAR LOHIA HOSPITAL, NEW DELHI</b>					
<b>BILL OF QUANTITIES</b>					
S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
<b>SUB-HEAD - I : INTERNAL WIRING</b>					
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit with modular switch modular plate suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc.as required.				
	Group C	Point	14		
2	Wiring for circuit/ submain wiring alongwith earth wire with the following size of FRLS PVC Insulated copper conductor, single core cable in surface/ recess medium class PVC conduit as required.				
i)	2x 2.5 sqmm+ 1x 2.5 sqmm earth wire	Meter	168		
ii)	2x 6 sqmm+ 1x 6 sqmm earth wire	Meter	50		
iii)	4 x 6 sq.mm + 2 x 6 sq.mm. earth wire	Meter	20		
3	Wiring for light/power plug points with 2 x 4 sq.mm. FRLS PVC insulated, Cu. Conductor, single core cable in surface/ recessed medium class PVC conduit along with 1 No. 4 sq.mm. FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	60		
4	Supplying and fixing of Stepped type electronic fan regulator on the existing modular plate & switch box including connections but excluding modular plate etc. as required.	Each	2		
5	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	5		
6	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 3 pin 5/6 Amp modular socket outlet and 5/6 A modular type switch, connections painting etc. as reqd. for Light plug point.	Each	20		
7	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 5/6 & 15/16 Amp modular socket outlet and 15/16 A modular type switch, connections painting etc. as required.	Each	4		
8	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent /LED fitting of all types, complete with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	12		
9	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq.mm FRLS PVC insulated, copper conductor, single core cable.including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	2		
10	Suppling and fixing 20A 240Volts SPN industrial type socket outlet with 2 pole and earthed in metal enclosed plug top along with 20A c curve SP ,MCB in sheet steel enclosure on surface or in recessed with chaned metal cover for the socket outlet and complete with connection testing and	Each	2		
11	Supplying and fixing of following sizes of PVC conduit along with the accessories in surface / recess including cutting the wall and making good the same in case of recessed conduit as required as per specification.				
i)	20mm dia PVC conduit	Metre	50		
ii)	25mm dia PVC conduit	Metre	100		
iii)	32mm dia PVC conduit	Metre	10		
8	Supplying and fixing of carbon dioxide fire extinguisher type 4 kgs. Capacity of approved make with wall mounting bracket as required conforming to IS: 2878/1976 (Push type).	Each	2		
<b>TOTAL RS.</b>					
<b>SUB-HEAD II - FANS &amp; LIGHT FIXTURES:</b>					
1	Supplying of minimum 36 watt LED recessed type (600 mm X 600 mm) extruded aluminium luminaire with heat sink installed back side, high quality diffuser fix in front frame max depth of 10mm total system wattage less than 45W with LED make of Cree/ Nichea( 36X1W LED) operating at 350 mA, lamp color 4000k, complete with electronic driver, CRI 80, lamp life 50,000 hrs, warranty 5 years , lockable holders and including connection etc. as required ,similar to Bajaj make BGRSQL 3601 WH or GE Troffer or Vivo LED.	Each	4		
2	Supplying of minimum 36 watt LED recessed type (150 mm X 1200 mm) extruded aluminium luminaire with heat sink installed back side, high quality diffuser fix in front frame max depth of 10mm total system wattage less than 45W with LED make of Cree/ Nichea( 36X1W LED) operating at 350 mA, lamp color 4000k, complete with electronic driver, CRI 80, lamp life 50,000 hrs, warranty 5 years , lockable holders and including connection etc. as required ,similar to Bajaj make BGRSQL 3601 WH or GE Troffer or Vivo LED.	Each	8		
3	Supplying of 1200mm sweep ceiling fan 5-star rate as per BEE complete with blades, down rod, shackle insulator, canopy etc.	Each	2		
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<b>SUBHEAD- III: M.V. PANELS/ DISTRIBUTION BOARD</b>					
1	Supplying and fixing following way,prewired SP&N,MCB distribution board of sheet steel 240 volts on on surface/ recess, complete with loose wire box ,terminal connectors for all incoming and outgoing circuits ,duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper busbars, neutral link, earth bar, dinbar, detachable gland plate , interconnections powder painted including p earthing etc. as required.(But without MCB/RCCB/Isolator)				
	2 + 4 way/6 way, double door	Each	1		
2	Supplying and fixing following way,prewired TP&N,MCB distribution board of sheet steel 415 volts on on surface/ recess, complete with loose wire box ,terminal connectors for all incoming and outgoing circuits ,duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper busbars, neutral link, earth bar, dinbar, detachable gland plate , interconnections powder painted including earthing etc. as required.(But without MCB/RCCB/Isolator)				
	8 way (4+24),Double door	Each	1		
3	Supplying & fixing 5 amps to 32 amps rating 240/415 volts C curve Miniature Circuit Breaker suitable for inductive loads of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
	Single Pole	Each	22		
4	Supplying and Fixing of following rating double pole 240 Volts isolator in the existing MCB DB complete with connections ,testing and commissioning etc as required.				
	40 amps	Each	1		
5	Supplying and Fixing of following rating four pole 415 Volts isolator in the existing MCB DB complete with connections ,testing and commissioning etc as required.				
	40 amps	Each	1		
6	Supplying & Fixing of following rating double pole (single phase and neutral) 240 volts, Residual Current Circuit Breaker (RCCB), having a sensitivity current upto 300 milli-amperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
	40 Amps	Each	3		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -IV : L.T. CABLES</b>					
1	Supply, laying and testing of under noted sizes of Aluminium conductor XLPE insulated PVC sheathed & sleeved armoured and overall PVC sleeved 1.1 KV grade power distribution cables conforming to relevant IS code and as per specification in ground (in existing trenches) through pipe or on wall / racks cable trays including dressing and clamping the cable with MS zinc passivated clamps etc. as required.				
i)	4 x 16 sq.mm	Metre	30		
2	Supply and laying of under noted sizes of hume pipe NP-2 grade under the road including 1:3:6 cement concrete bed at 750-1200 depth cutting and making good the same as required as per technical specifications.				
i)	100mm dia	Metre	20		
3	Supplying & making of end terminations with brass compression gland and Al. lugs for following sizes of PVC insulated and PVC sheathed/ XLPE Al. conductor cable of 1.1 KV grade as required.				
i)	4 x 16 sq.mm	Set	2		
4	Supply and fixing of steel work in position including clamps, frame work of flats, angle iron, channel with fabrication work for providing frame for the panels etc including cutting, bending, welding, drilling bolting etc. as per design as required. One coat of primer and 2 coats of enamel paint of approved shade shall be provided.				
		Kg.	50		
5	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
i)	150mm wide 50mm depth 1.6 mm thickness	Metre	5		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -V : EARTHING</b>					
1	Earthing with GI earth plate 600 x 600 x 6mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement with watering pipe complete with coke and salt etc. as required.				
		Each	2		
2	supplying, laying testing commissioning of 1x4 sq.mm. CU flexible cable for earthing on surface or in recess in existing conduit complete as required.				
		Metre	20		
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<b>SUB HEAD-VI : T.V. , TELEPHONE SYSTEM &amp; LAN SYSTEM</b>					
1	Supplying, drawing, connecting and testing of 0.5 mm dia annealed copper conductor PVC insulated PVC sheathed telephone wire in existing conduit/wire way duct etc. as required of following sizes:				
b)	2 Pair (4 core)	Metre	40		
2	Providing, laying, connecting and testing of multi-core telephone armoured cable of conductor size 0.63mm dia annealed copper conductor PVC insulated PVC sheathed jelly filled (as per DOT specification) cable along wall or ceiling or through existing pipe.				
a)	5 Pair telephone cable	Metre	30		
3	Providing, fixing connecting and testing of under noted size of solderless telephone tag block Krone make in surface/recess in wall required size of M.S. box with hinged lockable cover duly stove enamel painted.				
a)	5 pair tag block	Each	1		
4	Providing and laying of 80mm dia medium class GI pipe including all fixing accessories concealed or surface as required.	Metre	10		
5	Supplying and fixing M.S. box with modular type telephone (RJ-11) outlet complete as required. Make: Panduit, Systimax, Belden	Each	2		
6	Supplying and fixing M.S. box with modular type data/ computer (RJ-45) outlet complete as required. Make: Panduit, Systimax, Belden	Each	5		
7	Providing, laying, connecting and testing of data/ computer Cat-6 cable along wall or ceiling or through existing pipe, including penta scanning documentation etc as required. Make: Panduit, Systimax, Belden	Metre	100		
8	Supply, installation, testing and commissioning of cat-6 patch cord 3 metre complete as per specifications as required.	Nos.	10		
9	Supply, installation, testing and commissioning of cat-6 patch cord 1 metre complete as per specifications as required.	Nos.	5		
10	Supply, installation, testing and commissioning of SC-SC patch cord complete as per specifications as required.	Nos.	5		
11	Supply installation testing and commissioning of 24-port managed layered 2 switch with SFP uplink as per specifications complete as required.	Nos.	1		
12	Supply installation testing and commissioning of fully closed 6U rack cabinet with dual source power supply, all accessories as per specifications complete as required.	Nos.	1		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -VII : CCTV SYSTEM</b>					
1	Supply,installation,testing and commissioning of CCD coloured cameras, 1/3 inch 480 lines, HIGH RESOLUTION, 0.5 lux with 3/ 4 mm fixed lens with IR Leds for Day and night vision or equivalent complete as required in mini dome shape fixed type, including all wiring from the control module in existing PVC conduits complete as required. Make: honeywell, bosch, samsung	Set	4		
2	Supply,installation,testing and commissioning of 8 – channel colour Digital Video Mgmt system with 8 cameras inputs Built in multiplexer, Digital Video recorder, Video motion Detection system, aalong with 15" monitor, with external alarm inputs & outputs TCPIP network feature for remote monitoring & 500GB HDD Make: honeywell, bosch, samsung	Each	1		
3	Supply,installation,testing and commissioning of power supply unit with SMF batteries complete as required. (One no. for set of 5 cameras).	Each	1		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -VIII : UPS SYSTEM</b>					
1	Supply, Installation, testing & commissioning of 1x 3 KVA UPS system configuration with 1Phase Input and 1 Phase Output True On Line Double Conversion UPS including Battery Circuit Breaker for Each Module CRCA housing with all required fixing accessories and hardware, Inbuilt Static switch bypass and inverter in each UPS module, In-Built Manual Maintenance by-pass, Sealed Maintenance free batteries for 2 hour back up, Battery Racks MS Powder Coated etc complete as required. Make: Eaton, APC, Emerson	Set	1		
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<b>SUB-HEAD -IX : AC UNITS</b>					
1	Supply, installation , testing & commissioning of 2TR wall mounted split conditioning units, BEE 4 star rating including indoor and outdoor units , copper piping, drain piping, insulation, control and power cables between outdoor and indoor units, complete as required by Engineer-in Charge. Make: Voltas, Bluestar, Daikin	Set	2		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -X : MISCELLANEOUS ITEMS</b>					
1	Supply, installation , testing & commissioning of water dispenser, suitable for 20 litre water cans, with 5 litre storage capacity with outlets for normal, cold and hot water, single door, with separate compartment for refrigerator zone along with voltage stabilizer complete as required Make: Voltas, Usha, Haier	Set	1		
2	Supply Installation, Testing & Commissioning of Intel i7 4th Generation processor 3Ghz, 4GB RAM with 2TB hard disk, DVD-RW/keyboard/optical mouse/LAN card/19" LED monitor. Minimum 6 USB ports. With pre-loaded licensed Windows 7 Professional software as per specifications..Make:Dell/HP	Set	4		
<b>TOTAL RS.</b>					