

<b>SCHEDULE OF QUANTITIES FOR SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS FOR PROPOSED HLL PHARMACY AT AIIMS NEW DELHI</b>				
<b>SUMMARY OF COST - INTERNAL ELECTRICAL WORKS</b>				
<b>S.NO.</b>	<b>SUB-HEAD</b>	<b>DESCRIPTION</b>		<b>AMOUNT (RS.)</b>
1	SUB-HEAD - I	INTERNAL WIRING	RS.	
2	SUBHEAD-II	FANS & LIGHT FIXTURES	RS.	
3	SUBHEAD-III	M.V. PANELS/ DISTRIBUTION BOARD	RS.	
4	SUBHEAD-IV	L.T. CABLES	RS.	
5	SUBHEAD- V	EARTHING	RS.	
6	SUBHEAD- VI	T.V. , TELEPHONE SYSTEM & LAN SYSTEM	RS.	
7	SUBHEAD- VII	FIRE DETECTION SYSTEM	RS.	
8	SUBHEAD- VIII	CCTV SYSTEM	RS.	
9	SUBHEAD- IX	UPS SYSTEM	RS.	
10	SUBHEAD- X	DG SET	RS.	
		<b>TOTAL</b>	<b>RS.</b>	

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
	<b>SUB-HEAD - I : INTERNAL WIRING</b>				
	<b>Note:</b>				
	Rates of only ISI marked PVC conduit, FR PVC insulated multi-stranded copper conductor single core cables, modular plate type switches and socket outlets in M.S. box of 18 SWG and earth wire have been taken in the following items unless and otherwise specified, only such conduits, cables switches and socket outlets shall be used in the work as per list of approved makes attached with tender documents.				
1	Wiring for Light /Ceiling Fan / Exhaust Fan/ Call Bell point with 1.5 sq.mm FR PVC insulated multi-stranded copper conductor cable in surface / recessed PVC conduit, with modular switch, modular plate, suitable GI box, and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc as required.				
A)	Group -C	Point	135		
2	Wiring for Light plug 2 x 2.5 sq.mm FR PVC insulated multi-stranded copper conductor, single core cable in recessed ISI marked PVC conduit along with 1 No. 2.5 sq.mm FR PVC insulated copper earth wire for loop earthing as required.	Metre	2250		
3	Wiring for power plug 2 x 4 sq.mm FR PVC insulated multi-stranded copper conductor single core cable in surface / recessed PVC conduit along with 1 No. 4 sq.mm insulated copper earth wire for loop earthing as required.	Metre	400		
4	Wiring for power plug with 2 x 6 sq.mm FR PVC insulated multi-stranded copper conductor single core cable in surface / recessed PVC conduit along with 1 No. 6 sq.mm FR PVC insulated copper earth wire for loop earthing as required.	Metre	120		
5	Supplying and fixing of G.I box of 18 SWG in recessed including providing and fixing modular plate type 5 pin 6 Amp socket outlet, 6 Amp switch and plug top including connections, an painting etc. as required. (Light Plug).	Each	150		
6	Supplying and fixing of M.S. box of 18 SWG in recessed including providing and fixing modular plate type Universal 6 pin 16 Amp. Socket outlet, 16 Amp switch and plug top including connections, and painting etc. as required. (Power Plug).	Each	20		
7	Wiring for circuit wiring with 2 x 2.5 sq.mm FR PVC insulated multi-stranded copper conductor single core cable with 1 x 2.5 sq.mm. FR PVC insulated earth wire in recessed PVC conduit as required.	Metre	855		
8	Providing, fixing, testing and commissioning of under noted rating flush type industrial socket outlet with plug top controlled by ELCB/MCB all mounted in M.S. sheet steel box duly painted in recess / surface complete as required (excluding, wiring and conduit)				
a)	20 Amps 3 pin socket outlet controlled by DP ELCB (30 mA) for water cooler	Each	6		

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
9	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.				
a)	20mm dia PVC conduit	Metre	500		
b)	25mm dia PVC conduit	Metre	1000		
c)	32mm dia PVC conduit	Metre	500		
10	Wiring for sub mains wiring with following sizes of FR PVC insulated, multi-stranded copper conductor single core cables in surface / recessed PVC conduit as required.				
a)	4 x 6 sq.mm + 2 x 6 sq.mm. earth wire	Metre	20		
b)	4 x 16 sq.mm + 2 x 16 sq.mm. earth wire	Metre	60		
11	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	4		
<b>TOTAL RS.</b>					
<b>SUB-HEAD II - FANS &amp; LIGHT FIXTURES:</b>					
1	Supplying, fixing, connecting, testing and commissioning 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	73		
2	Supplying, fixing, connecting, testing and commissioning 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	43		
3	Supplying, fixing, connecting, testing and commissioning of minimum 9 watt LED recessed type downlighter extruded aluminium luminaire with heat sink installed back side, high quality diffuser fix in front frame system wattage less than 12W 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 Philips Green LED or equivalent.	Each	7		

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
4	Supplying, fixing, connecting, testing and commissioning of Bulkhead type light fitting complete with , wire guard, holder, electronic ballast 1 x 18 W lamp including connections etc. as required similar to Wipro Cat. No. WKP 14109	Each	12		
5	Supplying, erection, connecting, testing and commissioning of wall bracket fan 400 mm sweep with step speed regulator complete as required. (Crompton make).	Each	20		
6	Supply, installation, connecting, testing and commissioning of occupancy sensor including all wiring in the existing conduits required similar to Wipro cat. CDD 14 motion sensor	Each	10		
<b>TOTAL RS.</b>					
<b>SUBHEAD- III: M.V. PANELS/ DISTRIBUTION BOARD</b>					
1	Supplying, fixing, connecting, testing and commissioning of TP&N distribution board with double door with vertical bus bars, totally enclosed and concealed type complete with 200 Amps rating phase copper bus bars, suitable for incorporating single pole MCB's neutral link (special type) and earth links etc. as required as per specifications.				
<b>A.</b>	<b>TP&amp;N D.B. (4- WAY)</b>				
i)	1 No. 40 Amps 4P MCB isolator as incomer with RCCB (300mA)				
ii)	4/12 Nos. 6-32 Amps TP/SP MCB for outgoing	Nos.	0		
<b>B.</b>	<b>TP&amp;N D.B. (6- WAY)</b>				
i)	1 No. 40 Amps 4P MCB isolator as incomer with RCCB (300mA)				
ii)	4/12 Nos. 6-32 Amps TP/SP MCB for outgoing	Nos.	0		
<b>C.</b>	<b>TP&amp;N D.B. (12- WAY)</b>				
i)	1 No. 63 Amps 4P MCB isolator as incomer with RCCB (300mA)				
ii)	36 Nos. 6-20 Amps SP MCB	Nos.	2		
2	Supplying, installation, testing and commissioning of L.T. panel fully compartmentalized cubical type sheet clad floor mounted totally enclosed , extensible on both sides, switch board suitable for use on 415 Volts 3-phase, 4 wire, 50 Hz system having required fault capacity, housed with incoming and outgoing, Aluminium bus bars with current rating of 0.8 Amp/sq.mm, interconnection etc. with indication lamps, accessories etc, as required as per specification and schematic diagram as required.				

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
	<b>INCOMER:-</b>				
	1 Nos. 200 Amps. 4P MCCB (35 KA) with electronic releases.				
	1 Set phase indication lights (R, Y, B)				
	1 No. Volt Meter (digital type) with inbuilt VSS & control fuses.				
	1 No. 0-100 Amp. Ammeter (digital type) with inbuilt ASS				
	<b>BUS BARS:-</b>				
	200 Amps. TP&N Aluminium bus bars (25 KA)				
	<b>OUT GOINGS:-</b>				
	1 Nos. 100 Amps. 4P MCCB (25 KA) with electronic releases.				
	1 Nos. 100 Amps. 4P Automatic Change over switch				
	1 Nos.63A 4P, MCB (10KA).				
	8 Nos.63A TPN, MCB (10KA).				
	8 Nos.63A TPN, MCB (10KA).	Set	1		
3	Providing and fixing MV danger plate of 200 x 150mm of mild steel at least 2mm thick and vitreous enameled white paint on both side and with inscription in signal red colour on front side as required.	Each	2		
	<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.				
a)	3.5 x 185 sq.mm	Metre	200		
b)	3.5 x 50 sq.mm	Metre	80		
c)	4 x 25 sq.mm	Metre	120		
d)	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.				
	not to be taken in civil item				
a)	100mm dia	Metre	20		
b)	200mm dia	Metre	50		

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
3	Supply and making end termination with brass double compression gland including providing and crimping of Aluminium solderless lugs / ferrules for XLPE armoured power Aluminium conductor cable 1.1 KV grade of following sizes:-				
a)	3.5 x 185 sq.mm	Set	2		
b)	3.5 x 50 sq.mm	Set	2		
c)	4 x 25 sq.mm	Set	8		
d)	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.	1000		
5	Supply and fixing of perforated 1.6 mm thick CRCA sheet steel power coated cable tray of following sizes complete with bend/tee joints, coupling plate & nuts bolts etc. including providing and fixing of M.S. painted hanger etc. as required.				
a)	300mm wide 50mm depth 1.6 mm thickness	Metre	150		
<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	6		
2	Supply and fixing of following sizes of copper/GI strip in GI pipe from earth electrode including cost of GI pipe 'B' class as required.				
a)	25mm x 5mm GI	Metre	50		
3	Supply and fixing of following of copper/GI strip on surface or in recess for connections etc. as required.				
a)	25mm x 5mm GI	Metre	100		
4	Providing and fixing of 6 SWG GI wire on surface or in recess for loop earthing along with the existing surface/recessed conduit for sub main wiring / cable as required.	Metre	700		
<b>TOTAL RS.</b>					
<b>SUB HEAD-VI : T.V. , TELEPHONE SYSTEM &amp; LAN SYSTEM</b>					

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
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	420		
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)	20 Pair telephone cable	Metre	200		
b)	5 Pair telephone cable	Metre	0		
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	0		
a)	30 pair tag block	Each	1		
b)	100 pair tag block	Each	0		
4	Supplying and fixing of under noted sizes of 14/16 SWG MS conduit with accessories such as bend, pull outlet box with cover, lock nuts, saddles, PVC bushes for telephone/fire alarm/computer or for any other services and necessary materials etc. on surface or concealed including cutting the walls.				
a)	20mm dia conduit pipe	Metre	600		
b)	25mm dia conduit pipe	Metre	500		
c)	32mm dia conduit pipe	Metre	300		
5	Providing and laying of 80mm dia medium class GI pipe including all fixing accessories concealed or surface as required.	Metre	40		
6	Supplying and fixing M.S. box with modular type telephone (RJ-11) outlet complete as required.	Each	14		
7	Supplying and fixing M.S. box with modular type coaxial outlet for TV antenna complete as required.	Each	8		
8	Providing, laying, connecting and testing of unarmoured TV cable RG-6 PVC insulated cable along wall or ceiling or through existing pipe.	Metre	320		
9	Supplying and fixing M.S. box with Phenolic laminate plate 4- way splitter box for TV antenna complete as required.	Each	4		

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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
10	Supplying and fixing M.S. box with modular type data/ computer (RJ-45) outlet complete as required.	Each	50		
11	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.	Metre	2000		
12	Supply, installation, testing and commissioning of cat-6 patch cord 3 metre complete as per specifications as required.	Nos.	100		
13	Supply, installation, testing and commissioning of cat-6 patch cord 1 metre complete as per specifications as required.	Nos.	50		
14	Supply, installation, testing and commissioning of SC-SC patch cord complete as per specifications as required.	Nos.	50		
15	Supply installation testing and commissioning of video patch panel as per specifications complete as required.	Nos.	1		
16	Supply installation testing and commissioning of RG-6 patch cords as per specifications complete as required.	Nos.	10		
17	Supply installation testing and commissioning of 24-port managed layered 2 switch with SFP uplink as per specifications complete as required.	Nos.	3		
18	Supply installation testing and commissioning of fully closed 42U rack cabinet with dual source power supply, all accessories as per specifications complete as required.	Nos.	1		
19	Supplying and fixing of 450 x 450 x 150 M.S. box with Phenolic laminate plate of 16 SWG M.S. Sheet with hinged door cover for mounting TV amplifier including wooden base plate complete as required.	Each	2		
<b>TOTAL RS.</b>					
<b>SUB-HEAD -VII : FIRE DETECTION SYSTEM</b>					
1	Supply, installation, connecting, testing and commissioning of 2 Zone conventional type Fire Control Panel as per specifications mentioned elsewhere in the Document/ as per the builders specification complete as required. The Fire Panel shall also have necessary control relay modules to switch off the AC unit/ AHU's supply/ Fire Damper in case of Fire. The Contractor shall provide necessary relay for each unit to switch it off in case of fire and also relays to link with the main fire alarm panel.	Set	1		
2	Supply, installation, connecting, testing and commissioning of conventional Smoke Detectors (Optical) with blinking LED etc as required complete	Each	32		



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S.NO	DESCRIPTION OF ITEM	UNIT	QTY.	RATE (RS.)	AMOUNT (RS.)
3	Supply, installation, connecting ,testing and commissioning of conventional type Heat Detectors as required complete. (Rate of rise cum fixed type)	Each	2		
4	Supply, installation, connecting, testing and commissioning of conventional ductable Smoke Detectors (Optical) with blinking LED etc as required complete	Each	4		
5	Supply, installation, connecting, testing and commissioning of Manual Call Push button with break glass etc. in suitable size of M.S. as required complete.	Each	2		
6	Supply, installation, connecting, testing and commissioning of Hooters (30 M range) with strobe in suitable size of M.S. box. as required complete.	Each	2		
7	Supply and drawing of the following sizes of armoured Fire Survival cable, Copper conductor lapped with Glass Mica tape, insulated with specially formulated Zero Halogen compound & XLPE as per IEC-60331 . including loop circuit from main fire alarm panel located at ground floor in fire control room complete as required.	RM	800		
a)	Wiring for smoke/heat detectors.				
b)	Wiring for manual call point.				
<b>TOTAL RS.</b>					
<b>SUB-HEAD -VIII : 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.	Set	4		
2	Supply,installation,testing and commissioning of outdoor type CCD coloured cameras, 1/3 inch 480 lines, HIGH RESOLUTION, 0.1 lux with 3/ 4 mm fixed lens with IR Leds for Day and night vision complete as required PTZ type, including all wiring from the control module in existing PVC conduits complete as required.	Set	2		
3	Supply,installation,testing and commissioning of 16 – channel colour Digital Video Mgmt system with 16 cameras inputs Built in multiplexer, Digital Video recorder, Video motion Detection system, with external alarm inputs & outputs TCPIP network feature & 500GB HDD	Each	1		
4	Supply,installation,testing and commissioning of power supply unit with SMF batteries complete as required. (One no. for set of 5 cameras).	Each	2		
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	<b>SUB-HEAD -IX : UPS SYSTEM</b>				
1	Supply, Installation, testing & commissioning of 1x 30 KVA UPS system configuration with 3Phase Input and 3 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 Galvanic Isolation Transformer at the output, Inbuilt Static switch bypass and inverter in each UPS module, In-Built Manual Maintenance by-pass, Sealed Maintenance free batteries for 15 Min back up, Battery Racks MS Powder Coated etc complete as required.	Set	1		
	<b>TOTAL RS.</b>				
	<b>SUB-HEAD -X : DG SETS</b>				
1	Design, supply at site, installation, testing & commissioning of 3-phase, 415 volt, 1500 RPM, 50 HZ, Diesel generator set of <b>50 KVA</b> at 0.8 pf lagging diesel engine alternator set mounted on common base frame in outdoor type acoustic enclosure , day tank capacity of 990 litres with AMF Panel, battery, batter charger, return fuel cooler, anti vibration mounting pads including residential silencer, engine alternator, DG Exhaust, insulation, supports as per site conditions, control cabling between main LT panel, safeties with accessories as per specification complete as required. Diesel engine shall conform to IS:10000 and alternator shall be self excited complete with AVR to IS:4722.	Set	1		
	<b>TOTAL RS.</b>				