

PACKAGE-5
(SMALL L.T SEMINAR &
FACULTY OFFICE BLOCK-2)

BILL OF QUANTITIES

MAIN SUMMARY

S.NO.	DESCRIPTION	AMOUNT (Rs.)
1	CONDUITS & PIPES	
2	DISTRIBUTION BOARDS	
3	LOW VOLTAGE CABLES AND WIRES	
4	WIRING ACCESSORIES	
5	LIGHTING FIXTURES & FANS	
6	WIRING FOR LIGHTS, FANS & SOCKETS	
7	UPS SYSTEM	
8	CABLE TRAY	
9	EARTHING SYSTEM	
10	VOICE, DATA COMMUNICATION & CCTV CABLING SYSTEMS (Passive Equipment Only)	
11	PUBLIC ADDRESS / VOICE EVACUATION SYSTEM	
12	PUBLIC ADDRESS SYSTEM	
13	CCTV SYSTEM	
14	ADDRESSABLE FIRE ALARM SYSTEM	
15	SELF CONTAINED EMERGENCY LIGHTS	
	GRAND TOTAL AMOUNT CARRIED TO FORM OF BID	

BILL OF QUANTITIES

[illegible]

BILL OF QUANTITIES

[illegible]

BILL OF QUANTITIES

[illegible]

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
4	<u>WIRING ACCESSORIES</u>				
a)	Supply, installation, testing and commissioning of following 10/13/15/20A, gang type switches, Dimmer Switches, Sockets including 16 SWG Sheet Steel powder coated back boxes with earth terminal, recessed in wall / column, with all accessories as per specification, complete in all respects.				
i	One Gang Switch 10A	54	No.		
ii	Two Gang Switch 10A	56	No.		
iii	Three Gang Switch 10A	14	No.		
iv	Four Gang Switch 10A	38	No.		
v	One Gang Fan Dimmer Switch 10A	124	No.		
vi	13A, International Switch Socket Outlet	112	No.		
vii	13A, International Switch Socket Outlet (Weatherproof)	8	No.		
viii	13A, 3-Pin Flat 2-Gang Switch Socket Outlet	76	No.		
ix	13A, Unswitched Spur Outlet	2	No.		
x	20A, Double Pole Switch with neon indicator	12	No.		
xi	20A, Flex Outlet	12	No.		
xii	32A, 5-Pin Industrial Socket with Plug top	8	No.		
b)	Supply, installation, testing and commissioning of Floor Box (imported), 14 SWG Sheet Steel with all accessories, as per drawings, specifications and site requirements, complete in all respect. Note: Excluded of all Sockets and Face plates.	4	No.		
	<i>Amount Carried to Summary</i>				

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
5	<u>LIGHTING FIXTURES & FANS</u>				
a)	Supply, installation, testing and commissioning of following Light fixtures complete with starters, Electronic ballast (unless mention otherwise), lamps, lamp holders, drivers, mounting accessories etc., as per drawings and specifications, complete in all respects. Lighting fixtures sample must be submitted to consultant for approval. Note: Refer light fixtures drawings for complete light fixtures details.				
i	Surface Ceiling mounted LED Downlight Fixture (IP-20), PF>0.9, 4000K with Aluminum Profile housing and 1x25W LED lamp	354	No.		
ii	Surface Ceiling mounted LED Downlight Fixture (IP-44), PF>0.9, 4000K with Aluminum housing and 1x10W LED lamp	48	No.		
iii	Surface Ceiling mounted LED Batten Light Fixture (IP-20) with Polycarbonate Painted Steel housing and 1x40W LED lamp	152	No.		
iv	Wall / Surface mounted LED Wall Light Fixture (IP-65), PF>0.9, 3000K with Polycarbonate housing and 1x23W LED lamp	34	No.		
v	Wall / Surface mounted LED Decorative Wall Light Fixture (IP-20), PF>0.9, 4000K with 1x23W LED lamp	8	No.		
vi	Wall / Surface mounted LED Wall Light Fixture (IP-20), PF>0.9, 4000K with Aluminum housing, Glass cover and 1x25W LED lamp	16	No.		
vii	In Floor mounted LED Spike Planter Light Fixture (IP-65), PF>0.8, 3000K with Polycarbonate housing and 1x7W LED lamp	14	No.		
viii	In Floor mounted LED Track Light Extrusion with PC Reflector and 4x40W LED lamp	12	No.		
ix	Wall mounted LED Mirror Light Fixture (IP-44) with 1x8W LED lamp	8	No.		
b)	Supply, installation, testing and commissioning of following types of fan, including all connecting accessories, flexible wire etc. as per drawings and specifications, complete in all respects.				
i	56" dia Sweep Ceiling Fan complete with hook	96	No.		
ii	48" dia Sweep Ceiling Fan complete with hook	28	No.		
iii	8" dia Exhaust Fan	26	No.		
	<i>Amount Carried to Summary</i>				

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
6	<u>WIRING FOR LIGHTS, FANS & SOCKETS</u>				
a)	Supply, laying, tagging, testing and commissioning of Circuit wiring from DB to Switchboard including wiring between switch on the same circuit with 2x2.5 sq.mm + 1x2.5 sq.mm as ECC single core copper conductor PVC insulated wires in 3/4" dia PVC conduit, surface / recessed in wall, column, ceiling etc., including with all conduit accessories, as per drawing and specification, complete in all respect.	50	No.		
b)	Supply, laying, tagging, testing and commissioning of Point wiring from Switch Board to Light/fan Point with 3x1.5 sq.mm. single core copper conductor PVC insulated wires in 3/4" dia PVC conduit, surface / recessed in wall, column, ceiling etc., including with all conduit accessories, as per drawing and specification, complete in all respect.	484	No.		
c)	Supply, laying, tagging, testing and commissioning of Point wiring from Light point to Light point with 3x1.5 sq.mm. single core copper conductor PVC insulated wires in 3/4" dia PVC conduit, surface / recessed in wall, column, ceiling etc., including with all conduit accessories, as per drawing and specification, complete in all respect.	312	No.		
d)	Supply, laying, tagging, testing and commissioning of Circuit wiring (for Emergency / Exit Lights) from DB to Ist. Light Point with 2x2.5 sq.mm + 1x2.5 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit surface / concealed / recessed in wall, column, ceiling etc., including with all conduit accessories, as per drawing and specification, complete in all respect.	4	No.		
e)	Supply, laying, tagging, testing and commissioning of Point wiring (for Emergency / Exit Lights) from Light Point to Light Point with 2x2.5 sq.mm + 1x2.5 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit surface / concealed / recessed in wall, column, ceiling etc., including with all conduit accessories, as per drawing and specification, complete in all respect.	58	No.		
f)	Supply, laying, tagging, testing and commissioning of wiring for 13A Switch Socket outlet with 2x2.5 sq.mm + 1x2.5 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit, surface / recessed in wall, column, ceiling, under floor etc., including with all conduit accessories, as per drawing and specification, complete in all respect.				
i	DB to Socket outlet	32	No.		
ii	Socket outlet to Socket outlet	84	No.		

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
g)	Supply, laying, tagging, testing and commissioning of wiring for 13A Switch Socket outlet with 2x4 sq.mm + 1x4 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit, surface / recessed in wall, column, ceiling, under floor etc., including with all conduit accessories, as per drawing and specification, complete in all respect.				
i	DB to Socket outlet	24	No.		
ii	Socket outlet to Socket outlet	50	No.		
h)	Supply, laying, tagging, testing and commissioning of wiring for 13A Switch Socket outlet (for Water Cooler) with 2x4 sq.mm + 1x4 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit, surface / recessed in wall, column, ceiling, under floor etc., including with all conduit accessories, as per drawing and specification, complete in all respect.				
i	DB to Socket outlet	8	No.		
j)	Supply, laying, tagging, testing and commissioning of wiring for 20A DP Switch / Flex Outlet (for Water Heater / Projector) with 2x4 sq.mm + 1x4 sq.mm as ECC single core copper conductor PVC insulated wires in 25mm dia PVC conduit, surface / recessed in wall, column, ceiling, under floor etc., including with all conduit accessories, as per drawing and specification, complete in all respect.				
i	DB to 20A DP Switch	12	No.		
ii	DP Switch to Flex Outlet	12	No.		
k)	Supply, laying, tagging, testing and commissioning of wiring for 20A SPN Isolator (for Split AC) with 3 Core, 6 sq.mm copper conductor PVC insulated wires in 25mm dia PVC conduit, surface / recessed in wall, column, ceiling, under ground etc., including with all conduit accessories, as per drawing and specification, complete in all respect.				
i	DB to 20A SPN Isolator	24	No.		
Amount Carried to Summary					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
8	<u>CABLE TRAY</u>				
a)	Supply, fabricating, erecting, fixing and installing of following size of base perforated Cable Tray with sun cover, Fabricated with 14 SWG MS Sheet steel Hot dip Galvanized including all installation accessories (Hot Dip Galvanized) (ensure 80um microns) such as appropriate sizes and lengths of MS Rod / Angle Iron Supports and Rawl Bolts, including cutting, welding, jointing and necessary required hardware etc. Complete in all respect as shown in drawings and specification or as directed by the Engineer.				
i	100 mm x 50 mm (0'-4" x 0'-2")	40	Rm.		
ii	150 mm x 50 mm (0'-6" x 0'-2")	50	Rm.		
<i>Amount Carried to Summary</i>					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
9	<u>EARTHING SYSTEM</u> Supply, installation, testing and commissioning of following items for complete earthing system including all connecting accessories as per drawings, specifications and as mentioned in General Notes, complete in all respects.				
a)	Supply, installation, testing and commissioning of following items for complete Earthing system, including Bentonite chemical, other all required materials and connecting accessories, boring, labor, tools, transportation etc., as per drawings and specifications, complete in all respects with detailed test reports.				
i	Earth pit with Rod type earth electrode, 3/4" dia and 9 Ft. long copper bonded rod.	2	No.		
b)	Supply, installation, testing and commissioning of following size of PVC insulated Cu. Conductor cable as earth continuity conductor (ECC) installed on surface / in appropriate already installed raceway / in already excavated trench / in already laid pipe, as per specifications and drawings, complete in all respect.				
i	1C, 150 Sq.mm Cu/PVC	30	Rm.		
<i>Amount Carried to Summary</i>					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
10	<u>VOICE, DATA COMMUNICATION & CCTV CABLING SYSTEMS</u> <u>(Passive Equipment Only)</u>				
a)	Supply, installation, testing and commissioning of following Data / Voice Cabinets, for patch panel, Fiber panels, adapter, PDU's, Fans and space for active switches as it may require to complete the entire passive and active network as per the single line diagram, drawings and specifications, complete in all respect.				
i	15U Data Rack with PDU's (800mmx800mm)	4	No.		
b)	Supply, installation, testing and commissioning of Single RJ-45, Cat-6 outlet for Voice with shutter type and 16 SWG back box including tagging, as per drawing and specification, complete in all respect.	4	No.		
c)	Supply, installation, testing and commissioning of Dual RJ-45, Cat-6 outlet for Voice & Data with shutter type and 16 SWG back box including tagging, as per drawing and specification, complete in all respect.	70	No.		
d)	Supply, installation, testing and commissioning of Single RJ-45, Cat-6 outlet for Camera with shutter type and 16 SWG back box including tagging, as per drawing and specification, complete in all respect.	18	No.		
e)	Supply, installation, testing and commissioning of Single RJ-45, Cat-6 outlet for Projector with shutter type and 16 SWG back box including tagging, as per drawing and specification, complete in all respect.	4	No.		
f)	Supply, laying, termination, testing and commissioning of CAT 6 4 pair cable for Single RJ-45 outlet (Data, Voice, Camera and Projector system) in 25mm dia PVC conduit concealed / surface from each outlet to IDF racks, including tagging and piping with all necessary accessories, complete in all respect.	2,500	Rm.		
g)	Supply, installation, testing and commissioning of 24 port shutter type Cat 6, RJ 45 UTP Patch Panel fully loaded with tool less jacks and rear cable manager, as per drawing and specification, complete in all respect.	8	No.		
h)	Supply, installation, testing and commissioning of 24 port Multi Mode Fiber Patch Panel fully loaded with pigtails etc., and rear cable manager, as per drawing and specification, complete in all respect.	4	No.		
j)	Supply, installation, testing and commissioning of 19" front/rear (as required) cable organizer between patch panels and active equipment to provide patch cable management including with all necessary accessories, as per drawing and specification, complete in all respect.	12	No.		
k)	Supply, installation, testing and commissioning of CAT-6 UTP (RJ-45 to RJ-45) for the above Patch Panels including with all necessary accessories, as per drawing and specification, complete in all respect.				
i	CAT-6 (1m) Long Patch Cord	166	No.		
ii	CAT-6 (3m) Long Patch Cord	166	No.		

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
l)	Supply, laying, termination, testing and commissioning of Cat-5e, 25 pair cable from IDF rack to remaining IDF racks in already laid conduit / cable tray including with all the necessary accessories as per drawing and specifications, complete in all respect.	10	Rm.		
m)	Supply, laying, termination, testing and commissioning of 8 Core Multi mode Fiber Optic Cable from IDF rack to remaining IDF Racks in already installed conduit / cable tray, as shown in drawings including termination and tagging at both ends, as per standard specifications with all termination accessories up to entire satisfaction of IT Engineer.	10	Rm.		
n)	Supply, installation, testing and commissioning of following 19" Tag blocks in Data rack, as per drawing and specification, complete in all respect.				
i	2x10 Pair IDC Block 19" type	4	No.		
ii	1x10 Pair IDC Block 19" type	4	No.		
o)	Installation, testing and commissioning by Manufacturer Authorized Agent / Dealer and handing over complete Voice & Data System to Owner with Providing Training voice data fuke & OTDR Testing, as build drawing, Rack layouts and certification's Principal, complete equipment's Manual and Warranty Documents to Owners representative.	1	Job.		
<i>Amount Carried to Summary</i>					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
11	<u>PUBLIC ADDRESS / VOICE EVACUATION SYSTEM</u> Supply, installation, testing and commissioning of following items for Public Address / Voice Evacuation System, described below including all accessories, complete with mounting brackets, installation accessories, wiring etc. as per drawings and specifications, complete in all respect.				
a)	Supply, laying, termination, testing and commissioning of Wiring for complete Public Address / Voice Evacuation System with 2C - 1.5 Sq.mm shielded FP-200, twisted pair Fire Resistant Cable (2 hrs. rated) in 25mm dia PVC conduit concealed/ recessed/ surface/ ceiling, including with all accessories, as per drawing and specification. Complete in all respect.	160	Rm.		
b)	Supply, wiring and testing of PA Microphone points with Microphone Cable in 25mm dia PVC Conduit, recessed / surface in wall and ceiling, complete in all respects.	2	Job.		
c)	Supply, installation, testing and commissioning of PA System complete with all connecting accessories comprising of the following equipment, as per drawing and specification, complete in all respects.				
i	Remote Paging Microphone for upto 2 Zones with frequency response 100 Hz to 20 KHz and unidirectional electret condenser microphone goose neck table type with RJ45 connector with shielded twisted pair cable with indicators for power, failure, broadcast switch, covered switch, as per drawing and specification, complete in all respects.	2	No.		
ii	System Manager with built in Amplifier for 4 channel, built in Modular type message manager and Surveillance frame with 1x120W Power Amplifier module with frequency response 40 Hz to 20 KHz and 100V output voltage (EN54 compliant), as per drawing and specification, complete in all respects.	2	No.		
iii	Power supply manager with RJ45 female connector for connecting the system and cascade connection with shielded twisted pair straight cable and with indications battery check, charging circuit failure, battery failure (EN54 compliant), as per drawing and specification, complete in all respects.	2	No.		
iv	Providing & Connecting of Inter Connects Cables etc.	2	Job.		
v	19 inch Rack Cabinet with Glass Door to accommodate above equipments, as per drawing and specification, complete in all respects.	2	No.		
d)	Supply, installation, testing and commissioning of following type Speakers of Architect Approved color, with all accessories, steel wire and holding arrangements, as per drawing and specification, complete in all respects.				
i	6W Ceiling mounted Speakers with Tapping Transformers (1,1.5,3,4.5,6W), EN54 Compliant.	16	No.		

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
e)	Installation, testing and commissioning, Programming by Manufacturer Authorized Agent / Dealer and handing over complete PA System to Owner with providing training, SOP, complete equipment's manual and warranty documents to Owners representative.	1	Job.		
<i>Amount Carried to Summary</i>					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
12	<u>PUBLIC ADDRESS SYSTEM</u> Supply, installation, testing and commissioning of following items for Public Address System, described below including all accessories, complete with mounting brackets, installation accessories, wiring etc. as per drawings and specifications, complete in all respect.				
a)	Supply, laying, termination, testing and commissioning of Wiring for complete Public Address System with 2C - 1.5 Sq.mm PVC Cable in 25 mm dia PVC conduit concealed/ recessed/ surface/ ceiling, including with all accessories, as per drawing and specification. Complete in all respect.	170	Rm.		
b)	Supply, wiring and testing of PA Microphone points with Microphone Cable in 25mm dia PVC Conduit, recessed / surface in wall and ceiling, complete in all respects.	4	Job.		
c)	Supply, installation, testing and commissioning of PA System complete with all connecting accessories comprising of the following equipment, as per drawing and specification, complete in all respects.				
i	240W Mixer Power Amplifier (EN54 compliant), as per drawing and specification, complete in all respects.	4	No.		
ii	UHF Wireless Tuner with 64 selectable frequencies and external antenna input, as per drawing and specification, complete in all respect.	4	No.		
iii	Gooseneck Microphone unidirectional balance with Phantom supply and floor box, complete in all respects.	4	No.		
iv	UHF Wireless Handheld microphone with 64 UHF frequency range with built in antenna as per drawing and specification, complete in all respect.	4	No.		
v	19 inch Rack Cabinet with Glass Door to accommodate above equipments, as per drawing and specification, complete in all respects.	4	No.		
vi	Supply & Connecting of Inter Connects Cables etc.	4	Job.		
d)	Supply, installation, testing and commissioning of following type Speakers of Architect Approved color, with all accessories, steel wire and holding arrangements, as per drawing and specification, complete in all respects.				
i	30W Wall mounted Speaker Weatherproof type (IP-65) with Tapping Transformers (10,15,30W), EN54 Compliant.	16	No.		
e)	Installation, testing and commissioning, Programming by Manufacturer Authorized Agent / Dealer and handing over complete PA System to Owner with providing training, SOP, complete equipment's manual and warranty documents to Owners representative.	1	Job.		
	<i>Amount Carried to Summary</i>				

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
13	<u>CCTV SYSTEM</u> Supply, installation, testing and commissioning of following items for CCTV System, described below including all accessories, complete with mounting brackets, installation accessories, wiring etc. as per drawings and specifications, complete in all respect.				
a)	Supply, installation, testing and commissioning of 2 MP IP based fixed box camera with 1/2.8" CMOS 3.3 TO 12mm varfocal lens, power adopter, wall mounted bracket, and IP-65 housing, complete in all respect with fixing accessories, as per drawing and specifications, complete in all respect.	18	No.		
b)	Installation, testing, commissioning, programming by Manufacturer Authorized Agent / Dealer and handing over complete CCTV System to Owner with providing training, SOP, complete equipment's manual and warranty documents to owners representative.	1	Job.		
<i>Amount Carried to Summary</i>					

BILL OF QUANTITIES

S.NO.	DESCRIPTION	QTY	UNIT	RATE (Pak Rs.)	AMOUNT (Pak Rs.)
14	<u>ADDRESSABLE FIRE ALARM SYSTEM</u> Supply, installation, testing and commissioning of following items for Addressable Fire Alarm System, described below including all accessories, complete with mounting brackets, installation accessories, wiring etc. as per drawings and specifications, complete in all respect.				
a)	Supply, laying, termination, testing and commissioning of wiring for complete Fire Alarm System with 2C-1.5 Sq.mm shielded FP-200, twisted pair Fire Resistant Cable (2 hrs. rated) in 25mm dia PVC conduit concealed, (M.S conduit for surface.) etc., including any wiring between fire alarm control panel and other's systems control panel's etc. Complete in all respect.	960	Rm.		
b)	Supply, installation, testing and commissioning of Addressable Photoelectric Smoke Detector with base and back box, as per drawing and specification, complete in all respect.	94	No.		
c)	Supply, installation, testing and commissioning of Addressable Photoelectric Heat Detector with base and back box, as per drawing and specification, complete in all respect.	4	No.		
d)	Supply, installation, testing and commissioning of Addressable Manual Pull Station / Call Point (IP-20) with base and back box, as per drawing and specification, complete in all respect.	14	No.		
e)	Supply, installation, testing and commissioning of Addressable Manual Pull Station / Call Point (IP-65) Weatherproof type with base and back box, as per drawing and specification, complete in all respect.	4	No.		
f)	Supply, installation, testing and commissioning of Addressable Sounder (IP-20) with flasher / Strobe and base and back box, as per drawing and specification, complete in all respect.	16	No.		
g)	Supply, installation, testing and commissioning of Addressable Sounder, IP-65 Weatherproof type with flasher / Strobe, base and back box, as per drawing and specification, complete in all respect.	8	No.		
h)	Supply, installation, testing and commissioning of 01 Loop Addressable Fire Alarm Control Panel (FACP), including all necessary accessories, identification tagging etc. and 3Hrs battery back up. FACP as per drawing and specification, complete in all respect.	2	No.		
j)	Installation, testing and commissioning, Softwear, Programming by Manufacturer Authorized Agent / Dealer and handing over complete Fire Alarm system to owner with providing training, SOP, complete equipment's manual and warranty documents to Owner's Representative.	1	Job.		
	Amount Carried to Summary				

