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UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2018-270

Lot 13-D & 14-B

Bill of Quantities

Programme Title: Right to Education in the Gaza Strip

Project name: Recovery for Higher Education

PAL10- 00094739-

Rehabilitation Works for UCAS-University College of Applied Science-Phase D & IUG- Islamic
University of Gaza- Phase B



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UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2018-270

IUG- Islamic University of Gaza

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No (1)IUG Electrical Works					
	<p>The prices of all Electrical works listed below include:</p> <ul style="list-style-type: none"> • Execution of the works include all fittings and accessories required for installing and operation. • All materials are supplied (such as wires, pipes, electrical equipments ... etc) should be of excellent quality and approved by the supervising engineer. • The work includes maintenance period for each device according to tradition in the field. • Oversees the installation and maintenance, a specialist in the field of devices. •The price of all items includes supply, install and operate all required materials and workmanship to complete the job. <p>All works and materials must be according to drawings, specifications and supervisor instructions and approval.</p> <ul style="list-style-type: none"> • Provide a guarantee for electrical equipments of duration according to tradition in the field. • Contractor shall submit shop drawings for all electrical works to be approved by the Engineer before executing the work. • As-built drawings shall be submitted after handing over the work. • Contractor is not allowed to dismantling any electrical installations or connections without supervising engineer permission. 				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
SOLAR SYSTEM WORKS					
<i>ELECTRICAL WORKS for PV Solar System</i>					
1.1	Supplying, installing and operating distribution panel (SolDB1) MOELLER type, proper size for components and extra 30% space for future extention, the item includes busbars, wiring, insulations, plastic ducts, terminal blocks and all necessary equipments for installation and operation as per drawings, specifications and engineer instructions and including the following equipments:	NO	1		
	Supply, install and operate the followig items:				
1.2	MCCB 4*63A MOELLER made # NZMN1-4-A63	No	1		
1.3	MCB 4*32A MOELLER made # FAZ-C32/4	No	2		
1.4	MCB 4*20A MOELLER made # FAZ-C20/4	No	1		
1.5	MCB 4*16A MOELLER made # FAZ-C20/4	No	3		
1.6	Manual changeover switch (MTS) 4X40 Hager made or equivalent	No	1		
1.7	Bidirectional 3-Phase Digital KWH Meter (Schneider PM3200 or equivalent) The kWh meter has a wiring interface for monitoring by the Remote Monitoring System .	No	1		
1.8	3-Phase Digital KWH Meter type is (Siemens, Schneider or equivalent) at the output of the inverters with all required protections and wiring interface for monitoring by the Remote Monitoring System .	No	1		
1.9	LTL fuses 3x63A/100A JEAN MUELLER made or equivalent.	Set	1		
1.10	Surge arrestor protection at the incoming feeder 3- phase 40KA including connection to the lightning ground with flexible 25 mm2 yelow/green cable type Furse or equivalent.	Set	1		
1.11	colored indication lamps 3 nos. , with protection LTL with fuses. Type Moeller or approved equivalent.	Set	2		
1.12	Supplying, installing and operating ATS in switchboard No# P1/FU, P2/FU, P3/FU the item includes busbars, wiring, insulations, plastic ducts, terminal blocks and all necessary equipments for installation and operation as per drawings, specifications and engineer instructions and including the following equipments:	No	3		
1.13	Supply, install and operate MCB 4*20A MOELLER made # PKZM0-20	No	3		
1.14	Supply, install and operate MCB 4*20A MOELLER made # FAZ-C20/4	No	3		
1.15	Supply, install and operate colored indication lamps 3 nos. , with protection LTL with fuses. Type Moeller or approved equivalent.	Set	6		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.16	Supply, install and operate 3 PH, PV/Main ATS made of two CONTACTOR 4*25A, 400 V Type is MOELLER made # DILMP45, the price includes all mechanical and electrical interlock with all required control circuit including all equipments such as timer relay, auxiliary relay, switches ... is needed to operate the system automatically or manually.	UNIT	3		
1.17	Supplying, installing and connecting CU cable XLPE 5x16 mm2, the item includes 2" PVC pipe and all necessary equipments for installation and operation as per specifications and engineer instructions.	RM	60		
1.18	Supplying, installing and connecting CU cable XLPE 5x6 mm2, the item includes PVC pipe and all necessary equipments for installation and operation as per specifications and engineer instructions.	RM	200		
1.19	Supplying, installing and connecting CU cable XLPE 5x4 mm2, the item includes PVC pipe and all necessary equipments for installation and operation as per specifications and engineer instructions.	RM	50		
1.20	Supplying, installing and connecting CU Flexible cable PVC 1x4 mm2 The item includes PVC pipe and all necessary equipments for installation and operation as per specifications and engineer instructions.	RM	50		
1.21	Supplying and installing hot Galvanized steel cable tray with cover only for outdoor area, size 5*10cm (Approved Brand Name) The item includes all necessary equipments, fittings, accessories for installation as per specifications and engineer instructions.	RM	150		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Solar system components					
10.4kWp Hybrid PV solar system					
1.22	PV Modules – 10.4 Kw: Supply, install, connect and operate Polycrystalline Photovoltaic Solar Modules with total arrays capacity to achieve 10.4 KWp. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	KWp	10.4		
1.23	Supply , install and operate a water spray pump of 1.8kW and 110bar, for the used of washing the PV modules with all controll and protection and needed materials as per specifications and engineer instructions to complete the job.	L.S	1		
1.24	Supply and install PV steel structure as per specifications and engineer instructions. Supply and install PV steel mounting structure from hot galvanized steel profile foundation suitable to the dimension of selected PV modules and PV numbers, the mounting provides a fixed inclination of the modules 30 degree and must be faced to the true south with vertical supports, plates, screws and casting concrete foundations B250. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	L.S	1		
1.25	Supply, install, test and operate DC String Combiner Boxe IP 65, to protect all the installed PV strings, the price includes cable glands, DC LTL, 1000V DC Fuses, terminals, labels, duct and Suitable frame of galvanized steel for installation for combiner box. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	Unit	1		
1.26	Supply, install,Test and operate VRLA tubular Gel Deep Cycle industrial batteries with Storage capacity must be Not less than 110 kWh @ C10, 1.8V per cell, Ah Range (950Ah -1200Ah @ C10 , 1.8Vpc). The price includes all required materials and workmanship to complete the job. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	KWh	110		
1.27	Supply install and operate 10KW Hybrid Inverter as per the attached specs. The price includes all required materials and workmanship to complete the job. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	Unit	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.28	<p>Supplying, installing and operating AC and DC Protections as per engineer instructions and the following specifications:</p> <ul style="list-style-type: none"> • Supply, install and operate 48VDC combiner box to protect the batteries including the following: • 1500A DC busbars and OCPD with appropriate size and characteristics according to international standards. • Double poles DC LTLs with DC fuses with suitable sizes to the capacity of the battery banks system with all accessories and DC cables. • Supply, install a separate grounding system for thenegative busbar includes all required copper electrodes, clamps, manholes, copper earth cables and accessories to complete the job.(the earth resistance should not exceed 2 ohm). <ul style="list-style-type: none"> • Supply, install 400VAC protected loads panel with all required AC bus bars AC cables, conduits, cable trays, protections including MCCB, MCB, RCD, SPD and all other material needed to have a complete job ready for protected load powering according to the engineers instructions and approval. • The protected loads panel shall have 30% extra space for future extension. <p>The item includes all necessary equipments for installation and operation as per specifications and engineer instructions and approvals.</p>	L.S	1		
1.29	Supplying, installing and operating complete Monitoring system as per specifications and engineer instructions.	NO	1		
1.30	Supplying, installing and operating 12,000 BTU Split Air conditioner as per specifications and engineer instructions (Type is Tornado or equivalent) .	NO	1		
1.31	Supply and install Portable ABC Powder Fire Extinguisher as per specifications and engineer instructions.	NO	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
COMPUTER AND NETWORK SYSTEM WORKS					
1.32	<p>Supplying, installing and operating CISCO Wireless Network Equipments as per engineer instructions and the following specifications:</p> <p>1- Cisco 5520 Wireless Controller supporting 50 APs w/rack kit (Prt# AIR-CT5520-50-K9) (Qt: 1)</p> <p>2- Cisco 5520 Wireless Controller 50 AP License (Prt# LIC-CT5520-50A) (Qt: 1)</p> <p>3- Power Cord, 250VAC 10A CEE 7/7 Plug, EU (Prt# CAB-9K10A-EU) (Qt: 2)</p> <p>4- Cisco 5520 Wireless Controller DTLS License (Prt# LIC-CT5520-DTLS-K9) (Qt: 1)</p> <p>5- Cisco 5520 Wireless Controller SW Rel. 8.1 (Prt# AIR-CT5520-SW-8.1) (Qt: 1)</p> <p>6- 770W AC Hot-Plug Power Supply for 5520 Controller (Prt# AIR-PSU1-770W) (Qt: 1)</p> <p>7- PCIe Network Interface 20G (Prt# AIR-CT6870-NIC-K9) (Qt: 1)</p> <p>8- 1.90 GHz E5-2609 v3/85W 6C/15MB Cache/DDR4 1600MHz (Prt# AIR-CPU-E52609D) (Qt: 1)</p> <p>9- Cisco 5520 Wireless Controller Security Bezel (Prt# AIR-BZL-C220M4) (Qt: 1)</p> <p>10- Trusted Platform Module 1.2 for UCS (SPI-based) (Prt# AIR-TPM2-001) (Qt: 1)</p> <p>11- 770W AC Hot-Plug Redundant Power Supply for 5520 Controller (Prt# AIR-PSU1-770W) (Qt: 1)</p> <p>12- 8GB DDR4-2133-MHz RDIMM/PC4-17000/single rank/x4/1.2v (Prt# AIR-MR-1X081RU-A) (Qt: 4)</p> <p>13- 32GB SD Card for UCS servers (Prt# AIR-SD-32G-S) (Qt: 1)</p> <p>14- 240GB 2.5 inch Enterprise Value 6G SATA SSD(Prt# AIR-SD240G0KS2-EV) (Qt: 1)</p> <p>15- Top Level SKU for 5520 AP Adder Licenses (Prt# LIC-CT5520-UPG) (Qt: 1)</p> <p>16- Cisco 5520 Wireless Controller 1 AP Adder License (Prt# LIC-CT5520-1A) (Qt: 100)</p> <p>17- Cisco 5520 Wireless Controller DTLS License (Prt# LIC-CT5520-DTLS-K9) (Qt: 1)</p> <p>18- 802.11ac W2 10 AP w/CleanAir; 3x4:3; Ext Ant; I (Prt# AIR-AP2802E-IK910) (Qt: 11)</p> <p>19- 802.11n AP Low Profile Mounting Bracket (Default) (AIR-AP-BRACKET-1) (Qt: 110)</p> <p>20- BOM Level AP2800e Bulk PID for I Domain (Prt# AIR-AP2802E-IBULK) (Qt: 110)</p> <p>21- Cisco Aironet 2800 Series CAPWAP Software Image (Prt# SW2802-CAPWAP-K9) (Qt: 110)</p> <p>22- Ceiling Grid Clip for Aironet APs - Recessed Mount (Default) (Prt# AIR-AP-T-RAIL-R) (Qt: 110)</p> <p>23- 2.4 GHz 2 dBi/5 GHz 4 dBi Dipole Ant., White, RP-TNC (Prt# AIR-ANT2524DW-R) (Qt: 440)</p> <p>24- Power Injector (802.3at) for Aironet Access Points (AIR-PWR-CORD-IS) (Qt: 16)</p> <p>25- AIR Line Cord Israel (Prt# AIR-PWRINJ6=) (Qt: 16)</p> <p>26- Catalyst 2960-X 24 GigE PoE 370W, 2 x 10G SFP+, LAN Base (Prt# WS-C2960X-24PD-L) (Qt: 11)</p> <p>27- AC Power Cord (Europe), C13, CEE 7, 1.5M (Prt# CAB-ACE) (Qt: 11)</p> <p>28- Console Cable 6 ft with USB Type A and mini-B (Prt# CAB-CONSOLE-USB=) (Qt: 1)</p> <p>The item includes all necessary equipments for installation and operation as per specifications and engineer instructions.</p>	LS	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.33	Supplying, installing and operating network outlet type BTICINO MATIX # AM5979/6S For wireless units The item includes box, pipe and cable type FTP TELDOR CAT 6A direct line to main network rack in the building (length 30 to 80 m) , assembling and all necessary equipments for installation and operation as per specifications and engineer instructions.	No	70		
LIGHTNING PROTECTION FOR SOLAR SYSTEM					
1.34	Supply install and operate a complete lightning protection system including air terminal, 95 mm ² copper conductors around the PV modules locations and for the drops , PVC chairs, inspection boxes, earthing pit according to specifications, drawings and engineer's instructions.(Type is PULSAR 45 or equivalent). The price includes all required materials and workmanship to complete the job. All works and materials must be according to drawings, specifications and supervisor instructions and approval.	L.S	1		
ELECTRICAL ATS					
1.35	Supplying, installing and operating in the main switchboard of the university the following : <ul style="list-style-type: none"> • ACB 4X2500 A MOELLER made # IZMX40N4-V25W-1 (Qt: 1) • ACB 4X1600 A MOELLER made # IZMX40N4-V16W-1 (Qt: 1) • Cassette # +IZMX-CAS404-2500-1 (Qt: 1) • Cassette # +IZMX-CAS404-2000-1 (Qt: 1) • Main terminal set # IZMX-THV404-1 (Qt: 2) • Motor Operator # IZMX-M40-230AD-1 (Qt: 2) • Mechanical interlock # IZMX-MIL2C-W40-1 and Cable kit # IZMX-MIL-CAB1830-1 (Qt:1) • Closing release # IZMX-SR230AD-1 (Qt:2) • Shunt release # IZMX-ST230AD-1 (Qt:2) • Undervoltage release # IZMX-UVR230AD-1 (Qt:2) <ul style="list-style-type: none"> • Cassette safety shutter , Levering tool , Position cell switch , Door escutcheon , Communication module , Latch check switch , Auxiliary contact , Spare trip unit , Rating plug The item includes dismantling the existing ACB type Mitsubishi and includes busbars, flexible busbars, bolts of 3000A capacity and insulations, plastic ducts, terminal blocks and all necessary equipment for installation and operation as per specifications of Electricity Distribution In Gaza Company and as per drawings, specifications and engineer instructions.	L.S	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.36	<p>Supplying, installing and operating in the main switchboard of the university the following :</p> <ul style="list-style-type: none"> • ACB 4X1600 A MOELLER made # IZMX16N4-V16W-1 (Qt: 2) • Cassette # +IZMX-CAS164-1600-1 (Qt: 1) • Main terminal set # IZMX-THV164-1 (Qt: 2) • Motor Operator # IZMX-M16-230AD-1 (Qt: 2) • Mechanical interlock # IZMX-MIL2C-W16-1 and Cable kit # IZMX-MIL-CAB1830-1 (Qt:1) • Closing release # IZMX-SR230AD-1 (Qt:2) • Shunt release # IZMX-ST230AD-1 (Qt:2) • Undervoltage release # IZMX-UVR230AD-1 (Qt:2) <p>• Cassette safety shutter , Levering tool , Position cell switch , Door escutcheon , Communication module , Latch check switch , Auxiliary contact , Spare trip unit , Rating plug</p> <p>The item includes dismantling the exciting ACB type Mitsubishi and includes busbars, flexible busbars, bolts of 2000A capacity and insulations, plastic ducts, terminal blocks and all necessary equipment for installation and operation as per specifications of Electricity Distribution In Gaza Company and as per drawings, specifications and engineer instructions.</p>	L.S	1		
	Fire Alarm Panel System				
1.37	<p>Supply, test and operate Addressable Fire Alarm Control Panel, Two Loops, including power supply, all needed j-boxes, wires, original batteries. (Type is Morley or equivalent)</p>	LS	1		
TOTAL of Bill No 1					



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UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2018-270

**UCAS-University College of Applied
Science**

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No (2) Server Works					
	<p>1- All works and installations listed here below should be supplied, installed ,carried out, tested and commissioned by specialized responsible contractor by coordination with the university, all specifications and relevant standards, and the instruction of the Supervisor Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the requirement of the contract.</p> <p>2- All equipment will be installed must have manufacture guarantee not less than 3 years with all certificate test.</p> <p>3- The contractor should provide 3 types and (catalogues) to get the approval before supplying</p>				
2.1	<p>Supply , test and commissioning HPE DL580 Gen10 CTO Svr [#1] 1 869854-B21 HPE DL580 Gen10 8SFF CTO Server 1 869854-B21 B19 Europe - Multilingual Localization 1 878150-L21 HPE DL580 Gen10 Xeon-P 8160 FIO Kit 1 878150-B21 HPE DL580 Gen10 Xeon-P 8160 Kit 1 878150-B21 0D1 Factory integrated 8 815100-B21 HPE 32GB 2Rx4 PC4-2666V-R Smart Kit 8 815100-B21 0D1 Factory integrated 1 872267-B21 HPE DL560 Gen10 Universal Media Bay Kit 1 872267-B21 0D1 Factory integrated 3 878366-B21 HPE DL580 Gen10 8SFF HDD Bay Kit 3 878366-B21 0D1 Factory integrated 1 878214-B21 HPE DL580 Gen10 7-slot Pri Riser Kit 1 878214-B21 0D1 Factory integrated 3 804398-B21 HPE Smart Array E208e-p SR Gen10 Ctrlr 3 804398-B21 0D1 Factory integrated 1 830824-B21 HPE Smart Array P408i-p SR Gen10 Ctrlr 1 830824-B21 0D1 Factory integrated 8 872479-B21 HPE 1.2TB SAS 10K SFF SC DS HDD 8 872479-B21 0D1 Factory integrated 16 872481-B21 HPE 1.2TB SAS 10K SFF SC 512e DS HDD 16 872481-B21 0D1 Factory integrated</p> <p>1 726537-B21 HPE 9.5mm SATA DVD-RW Jb Gen9 Kit 1 726537-B21 0D1 Factory integrated 1 684208-B21 HPE Ethernet 1GbE 4P 331FLR FIO Adptr + 2-10gb fiber 1 875241-B21 HPE 96W Smart Storage Battery 145mm Cbl 1 875241-B21 0D1 Factory integrated 4 865414-B21 HPE 800W FS Plat Ht Plg LH Pwr Sply Kit 4 865414-B21 0D1 Factory integrated All according to engineer instructions.</p>	Unit	1		
2.2	Supply , test and commissioning Mother Board compatible with CPU i3-2120 All according to engineer instructions	NO	5		
2.3	Supply , test and commissioning RAM Memory 4GB, PC3-10600U, DDR3-1333 MHz, 240-pins, non-ECC, unbuffered DIMM (Dual In-Line Memory Module),for HP Compaq 8200 Elite MT PC All according to engineer instructions	NO	30		
2.4	Supply , test and commissioning RAM 4GB DDR3 (System memory feature:1333 MHz and DDR3 1066 MHz SDRAM DIMMs), Single-sided, 4 Gbit SDRAM Denisty, SDRAM Organization Front-side/Back-side 512 M x 8 / empty. (for the Intel Desktop Board DH61WW) All according to engineer instructions	NO	15		
2.5	Supply , test and commissioning PC Power Supply 300W Real high Quality All according to engineer instructions	NO	30		
2.6	Supply , test and commissioning PC Hard Disk SATA WDC New 500GB, 7500rpm All according to engineer instructions	NO	20		
2.7	Supply , test and commissioning HDD Laptop Thin 500 GB 7200RPM SATA 6 GB/s 32 MB Cache 2.5 Inch Hard Disk Drive. All according to engineer instructions	NO	10		
2.8	Supply , test and commissioning SSD: Interface: SATA Rev. 3.0 (6Gb/s) – with backwards compatibility to SATA Rev. 2.0 (3Gb/s), Capacity: 240GB, Data Transfer: up to 550MB/s Read and 490MB/s Write, Maximum Random 4k Read/Write (IOMETER): up to 90,000 IOPS and 25,000 IOPS. All according to engineer instructions	NO	10		
2.9	Supply , test and commissioning VGA Cable 1.8 meter M - M All according to engineer instructions	NO	20		
2.10	Supply , test and commissioning USB Laser printer Cable 3 meter All according to engineer instructions	NO	20		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.11	Supply , test and commissioning high performance Microsoft wired optical mouse 200 BUS USB EMEA BLACK, 35H-00002 All according to engineer instructions	NO	30		
2.12	Supply , test and commissioning HDMI Splitter with power, Ultra HD 4K 2 Port HDMI Splitter 1×2 Repeater Amplifier 3D 1080P Hub 1 In 2 Out	NO	10		
2.13	Supply , test and commissioning LCD LAMP for Epson EB-S02, Lamp Type: ELPLP 67. All according to engineer instructions	NO	5		
2.14	Supply , test and commissioning LCD LAMP for Epson EB-S9, Lamp Type: ELPLP 58. All according to engineer instructions	NO	5		
2.15	Supply , test and commissioning LCD LAMP EPSON EB-S18 Lamp Type: ELPLP 78. All according to engineer instructions	NO	5		
2.16	Supply , test and commissioning Speakers Subwoofer: Sub 10W + 3W*2 speakers, 4ohm, 4"SUB +3"*2 All according to engineer instructions	NO	10		
2.17	Supply , test and commissioning HDMI Cable 3 meter. All according to engineer instructions	NO	30		
2.18	Supply , test and commissioning network cable CAT5E SFTP 24AWG Solid copper. All according to engineer instructions (Brand Name)	L M	500		
2.19	Supply , test and commissioning Rj45 Female Jacks CRYSTAL class D+ 3P (3013A VH8FS-C5). All according to engineer instructions.	NO	100		
2.20	Supply , test and commissioning RAM memory 1 x 8 GB for HP proliant DL 380 G6. All according to engineer instructions	NO	6		
	Fire Alarm Panel System				
2.21	Supply, install, connect and operate Addressable Fire Alarm Control Panel, Two Loops, including power supply, all needed j-boxes, wires, original batteries. The price includes connecting, operating and programming all the existing loops in the building with commissioning for all existing smoke detectors to comply with the new panel with all the necessary materials, cables, dusts, civil works and accessories to complete the works as per the engineer instructions. (Type is Morley or equivalent)	LS	1		
TOTAL of Bill No 2					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No (3) Network Equipment Works					
	<p>1- All works and installations listed here below should be supplied, carried out, tested and commissioned by specialized responsible contractor by coordination with the university, all specifications and relevant standards, and the instruction of the Supervisor Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the requirement of the contract.</p> <p>2- All equipment will be installed must have manufacture guarantee not less than 3 years with all certificate test.</p> <p>3- The contractor should provide 3 types and (catalogues) to get the approval before supplying</p>				
3.1	<p>Cisco Outdoor Aironet 1530 Series Access Point . AIR-CAP1532E-I-K9 802.11n Low-Profile Outdoor AP, External Ant., I Reg Dom S1G3K9W715303JD Cisco 1530 Series IOS WIRELESS LAN SWAP1530-CMBA1-K9 Cisco 1530 Series Combined Unified & Autonomous SW External Power Adapter for Cisco Aironet 1530 Series Access Point AIR-PWRADPT1530= Power Adapter (AC/DC) - Outdoor AP1530 Series</p>	No.	5		
3.2	<p>AIR-ACC1530PMK1 Standard Pole/Wall Mount Kit for AP1530/1560 Series AIR-ACC1530CVR= Cover and Solar Shield for AP1530 Series</p>	NO.	5		
3.3	<p>AIR-ANT2547V-N 2.4 GHz 4dBi/5 GHz 7dBi Dual Band Omni Antenna, N connector</p>	NO.	10		
3.4	<p>Cisco 2500 Series Wireless Controllers AIR-CT2504-15-K9 2504 Wireless Controller with 15 AP Licenses LIC-CT2504-BASE Base Software License CON-SESVLIT4BASE SC SWSS UPGRADES Base Software Licens AIR-CT2504-SW8.0 Cisco 2504 Wireless Controller SW Rel. 8.0 CAB-AC2E AC Power cord Europe</p>	NO.	1		
3.5	<p>AIR-CT2504-RMNT 2504 Wireless Controller Rack Mount Bracket AIR-CT2504-CCBL 2 Prong C7/C8 On-Off AC Power Supply Switch AIR-CT2504-K9 2504 Wireless Controller DTLS License</p>	NO.	1		
3.6	<p>Supply , test and commissioning SA-16200AHD-2L (1U) 16 Channel AHD DVR 16CH 1080P Lite AHD + 2CH 960P IP HYBRID DVR Input: 16Ch AHD/Analog BNC + 2Ch IP (Over Network) Output: HDMI, VGA 1U Case, 2 HDD Audio In/Out, Alarm In/Out, RS-485 100Mbps Network Including install and operate all necessary DVR, cables, powers and connectors. All according to engineer instructions.</p>	NO	5		
3.7	Supply , test and commissioning WD Purple NV hard drive, Capacity: 4TB, SATA 6Gb s, Cache: 64MB, RPM Class: IntelliPower	NO	5		
3.8	Supply , test and commissioning DVR Box with Power supply and protection 16Ch. All according to engineer instructions	NO	5		
3.9	Supply , test and commissioning DI-390AHD36 / + , AHD IR DOME CAMERA FIXED LENS	NO	40		
3.10	Supply, install and connect PNC connectors. All according to engineer instructions	NO	100		
3.11	Supply, install and connect Camera Cable BNC Plug Power & Video . All according to engineer instructions	M.R	1500		
3.12	Supply, install and connect Power connector's camera, All according to engineer instructions	NO	50		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3.13	Supply , test and commissioning Cisco firewall ASA5505-SEC-BUN-K9 All according to engineer instructions	NO	2		
3.14	Supply , test and commissioning Router Cisco CISCO2921-HSEC/K9, Model CISCO2921-HSEC/K9 Cisco 2921 Router ISR G2 DRAM Memory 512 MB Flash Memory 256 MB or higher All according to engineer instructions	NO	1		
3.15	Supply , test and commissioning Switch L3, WS-C3750X-24P-E Catalyst 3750X 24 Port Data IP Base with Redundancy Power supply. All according to engineer instructions	NO	2		
3.16	Supply , test and commissioning Switch Cisco catalyst 2960 series L2 , WS-C2960X-24PS-L Stack 24 Gige-4 x SFP LAN Base All according to engineer instructions	NO	1		
3.17	Supply , test and commissioning MicroTik 750gl All according to engineer instructions .	NO	1		
3.18	Supply , test and commissioning Server Rack 42U (1000 mm Depth), Internal Dimensions: Width: Post-to-post: 17.75" (450 mm) Hole-to-hole: 18.5" (469 mm) Height: 75" (1905 mm) Depth: 34.25" (869 mm) All according to engineer instructions	NO	1		
3.19	Supply , test and commissioning Switch Rack 6U , Maximum Device Depth (cm) 52.07., Minimum Device Depth (cm) 7.62. Unit Dimensions (hwd / cm) 54.79 x 59.99 x 54.86. All according to engineer instructions	NO	1		
3.20	Supply , test and commissioning RJ45 Network Crimp Tool All according to engineer instructions	NO	20		
3.21	Supply , test and commissioning RJ45/RJ11 Network Cable Tester: consists of: Cable tester Master unit, Remote Unit, Inputs/Outputs: RJ11 & RJ45 All according to engineer instructions	NO	4		
3.22	Supply , test and commissioning Network Punch Down Krone Tool . All according to engineer instructions	NO	4		
3.23	Supply, install connect and operate false ceiling Fan 60*60 cm diameter with 14" internal Fan. The item includes Remote Control switch and all necessary equipment for installation and operation as per drawings, specifications and engineer instructions.	No.	40		
3.24	Supply , test and commissioning Cisco Catalyst WS-C2960x-48TS-L All according to engineer instructions	No.	2		
3.25	Supply , test and commissioning Cisco Catalyst WS-C2960x-24TS-L All according to engineer instructions	No.	2		
3.26	Supply , test and commissioning 24 Port SHIELDED Network Patch Panel CAT6 STP Vertical Punchdown. All according to engineer instructions	No.	8		
3.27	Supply , test and commissioning 30cm Category 6 Shielded Ethernet Network Patch Cable - Gray - copper. All according to engineer instructions	No.	50		
3.28	Supply , test and commissioning 3 meter Category 6 Shielded Ethernet Network Patch Cable - Gray - copper. All according to engineer instructions	No.	100		
3.29	Supply , test and commissioning Cat 6 Shielded RJ45 Jacks (FTP). All according to engineer instructions	No.	50		
3.30	Supply , test and commissioning Network Cable UTP Cat6 23AWG - Copper. All according to engineer instructions (Brand Name)	L.M	500		
3.31	Supply , test and commissioning network access point cisco wap121 All according to engineer instructions	No.	24		
3.32	Supply, install connect and operate Single internal socket outlet in wall and Furniture works 16A, 220v, 2p+E for flush, wall, or surface mounted , complete with PVC conduits, J.bboxes, bindle cables,Duct plastic and all necessary accessories. (Type is Gewiss Chourus or equivalent).All according to engineer instructions	No.	30		
3.33	Supply, install and connect internal complete computer sockets (single) in wall ,Duct plastic and Furniture works with RJ45 cat 6 female connectors, cover, Original Italian GEWISS (RJ45 Data Socket Cat6 (Product Code: GW20684)), connect it to the patch panel in Rack with U/FTP Teldor cables cat 6 as shown in the network drawings, all sockets must be tested and labeled(cables, sockets).(cable must has one meter extra length inside the Rack) All according to engineer instructions	No.	30		
3.34	Supply and paint the internal walls with two finishing coats oil paint .Treatment of cracks including cleaning, rubbing, open, filling with Sikaflex, closing openings, repairing damaged of Tambourtex and cleaning the surface as specification and engineer instructions.	M2	100		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3.35	Supply, and install Digital Signage Player - Dual 1.60 GHz processor with integrated GPU @ 400MHz, - System Memory – 2GB DDR3 @ 800 MHz - Storage – 32GB SSD (70MB/s write speed) and SD card slot - Connectivity – 1x Ethernet 10/100/1000-Gbps port with PoE and PoE+ support -Wireless version only: Dual band Wi-Fi 802.11 b/g/n + Bluetooth 4.0 - Video Output – 1x HDMI 1.3a, 1x 1 VGA port, dual-display support, single touch and multi-touch screens support. - HD Video – MPEG-2 and MPEG-4, H.264, and VC-1 hardware decoding, Up to two simultaneous HD video streams. - Audio – 1x audio-in and 1x audio-out port (3.5mm jack) - USB – 4x USB ports - Misc – 1x RS-232 (DB-9) port, 1x infrared extender port, 1x console port (RJ45), - Kensington safety lock, factory mode and power buttons, as well as Bluetooth, HDD, Wi-Fi, and Ethernet LEDs. - Power Supply – 12V/3A All according to engineer instructions	No.	1		
3.36	Supply and, install HDMI Switch 1 x 8 ports -Supports the following resolutions – 1080P, 3D, 4K (ultra HD) and all lower resolutions Can be daisy chained with other units if needed -Supports HDCP -Simple plug & play operation -Video Bandwidth – 1.65GHz -HDMI connectors – Standard Type A female sockets -Power supply – 5VAC 3A All according to engineer instructions	No.	2		
3.37	Supply, install and connect HDMI cable 20m long factory made between HDMI Switch and TV.All according to engineer instructions	No.	3		
3.38	Ditto but 15m long All according to engineer instructions	No.	3		
3.39	Ditto but 10 m long All according to engineer instructions	No.	3		
3.40	Supply, install and connect , High quality satellite cable that include RG6 Dual Shield Coax Cable with Gel filled outer stops moisture ingress.use all necessary equipment for installation and operation as per drawings, specifications and engineer instructions.	M.R	600		
3.41	Supply, install and connect 8-way Satellite distribution -Inputs: FM, DAB, UHF, CCTV, LNB -Outputs: FM-88-108MHz, DAB-218-230MHz, UHF-470-854MHz, CCTV-470-854MHz, LNB-950-230MHz -Downlink output (Gain/loss): FM-4dB loss, DAB-4.5dB loss, UHF-2.5dB loss, CCTV-6.5dB loss, LNB-2dB loss -Distribution outputs (Gain/loss): FM-0dB loss, DAB-1dB loss, UHF-*A, CCTV-*A, LNB-*B -Uplink path (operating frequency): 470 - 854MHz -Uplink path (Gain per distribution port): 8dB -Return path (RF return frequency): 470 - 854MHz -Return path (RF return gain): 0dB -Return path (Dig eye compatible): all output ports compatible -Return path (RF return gain): 9V DC at 15mA max. per outlet, short-circuit protection -RF return frequency: 470 - 854MHz -RF return gain: 0dB Has built in filter to prevent interference from the 4G mobile phone network All according to engineer instructions	No.	4		
3.42	Supply , test and commissioning TP - Link WA801ND All according to engineer instructions	NO	2		
3.43	Supply , test and commissioning single-line corded phones All according to engineer instructions	NO	20		
3.44	Supply , test and commissioning Wireless Barcode Scanner Reader All according to engineer instructions	NO	1		
3.45	Supply , test and commissioning Calculator Roll (casio) All according to engineer instructions	NO	5		
3.46	Supply , test and commissioning Money Counter Machine Currency Cash Bank Sorter Counterfeit Detection Bill Count All according to engineer instructions	NO	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3.47	<p>Supply , test and commissioning LCD Projector EB-X41 All according to engineer instructions Projection System 3LCD Technology, RGB liquid crystal shutter LCD Panel 0.55 inch with MLA (D10) IMAGE Colour Light Output 3,600 lumen- 2,235 lumen (economy) In accordance with IDMS15.4 White Light Output 3,600 lumen - 2,235 lumen (economy) In accordance with ISO 21118:2012 Resolution XGA, 1024 x 768, 4:3 Contrast Ratio 15,000 : 1 Lamp UHE, 210 W, 6,000 h durability, 10,000 h durability (economy mode) Keystone Correction Auto vertical: ± 30 °, Manual horizontal ± 30 ° Colour Reproduction Upto 1.07 billion colours OPTICAL Projection Ratio 1.48 - 1.77:1 Zoom Manual, Factor: 1.2 Image Size 30 inches - 300 inches Projection Distance Wide/Tele 1.8 m - 2.17 m (60 inch screen) Projection Lens F Number 1.49 - 1.72 Focal Distance 16.9 mm - 20.28 mm Focus Manual CONNECTIVITY USB Display Function 2 in 1: Image / Mouse Interfaces USB 2.0 Type A, USB 2.0 Type B, VGA in, HDMI in, Composite in, Cinch audio in, Wireless LAN IEEE 802.11b/g/n (optional)</p> <p>Epson iProjection App Ad-Hoc / Infrastructure Offset 8 : 1 ADVANCED FEATURES Security Kensington lock, Security cable hole, Wireless LAN unit lock, Password protection 3D No Features AV mute slide, Automatic keystone correction, Built-in speaker, Horizontal and vertical keystone correction, Long lamp life, Quick Corner Video Colour Modes Blackboard, Cinema, Dynamic, Presentation, sRGB All according to engineer instructions</p>	NO	20		
3.48	Supply , test and commissioning WIRELESS LAN ADAPTER - ELPAP10. Compliant with IEEE 802.11 b/g/n standards. For LCD Projector EB-X41. All according to engineer instructions	NO	20		
3.49	Supply , test and commissioning LCD lamp replacement ELPLP96. For LCD Projector EB-X41. All according to engineer instructions	NO	20		
3.50	Supply , test and commissioning LCD projector ceiling mount bracket of high quality(Epson or equivalent) to fit the existing projectors, universal swivelling, rotating and tilt with adjustable height, the prices includes protection box of hot galvanized steel plates (20*2mm) with lock and any required accessories, including power cable 3*2.5mm with on off switch,power socket, HDMI cable 20m, HDMI socket to be install in the existing wall, HDMI cable 3m, work including laying of the cables in the existing walls and re finished it to match the existing finishing according to specification and engineer instructions.	NO	20		
3.51	Supply and install a manual bull-down projector screen (200cm*200cm) of matte white PVC with black back, the price includes aluminium frames for the upper and lower edges, upper aluminium case, pull cord, controlled return system (CRS), wall or ceiling mounting, tilt lock and any required accessories according to specification and engineer instructions.	NO	10		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3.52	Supply , test and commissioning LCD Video Wall for Indoor Display with own software (3x3) matrix each 55 inch LCD splicing video wall for indoor display system in digital signage solutions High Definition Display 1920*1080P LG or Samsung screens Super slim bezel Support 6.7mm High Brightness 500/700cd/m ² high brightness Signal Type Support AV/DVI/HDMI/VGA single or multi signal sources Support HDMI loop and RS232 control Software and Control System USB upgrade software on mainboard, built-in automatic cooling fans Support splitter/matrix/graphics processor to manage signal source Installation With wall-mounted All according to engineer instructions	NO	1		
3.53	Supply , test and commissioning complete Queue management systems: The item includes : Display - Red LED no 6 Kit- 1 (matik interface+connect management) no 1 virtual terminal / user no 6 Voice software (license per branch)+ Sound System no 1 Ding dong Loudspeaker no 2 Power Supply 24 v 4.5A no 4 Installation set 10m TTR cable 4* RJ -12 Rack 1* connection box male and female UPS no PLUGS HOT SILLICON 100 m / cable no 1 Queuing System Main Screen 4 Rows no 1 Ticket Roll for Queuing System no 50 Dismantle And Re-install Queuing System. QUEUEING SYSTEM PC+15" TOUCH SCREEN +TICKET PRINTER no 1 The work includes all needed materials, accessories and workmanship to complete the works according to engineer instructions and specifications. (Brand Name)	Unit	2		
3.54	Supply, install and connect PVC pipes with all required electrical and civil works, the item includes dismantling and re install the existing tiles with replacing any damaged tiles or other with new approved materilas and laying under ground PVC piping system(3 pipe 1 ") and all required civil works to finish the work according specifications and demands of the supervising engineer, to connect cables terminals from source to destination.	MR	180		
3.55	Supply, install and connect , High quality HDMI cable 20m length as per drawings, specifications and engineer instructions.	NO	4		
3.56	Ditto but 10m length	NO	6		
3.57	Ditto but 5m length	NO	5		
3.58	Supply, install and connect, DSplayer Optoma	NO	2		
TOTAL of Bill No 3					

OVERALL SUMMARY

NO.	Description	Total price (\$)
1	Electrical Works-IUG	
2	Main server Works -UCAS	
3	Net work Works -UCAS	
Total		

Total in numbers:

Total in letters:

Name of the contractor:

Authorized signature:

Signature and Sealing:.....

Title:

Telephone:.....

Fax:

Mobile: