

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	UPS	<p>UPS With Dry Batteries Bank For Data Center UPS Rating / Power 6KVA/6KW Back-up time on typical load Standard Back-up UPS Toplogy ON-Line Double Conversion, Tower Type Technology High Frequency, Transformer Less Technology Brand USA/Europe/UK or Equavilent Working Temperature -10 to 40C Storage Temperature -15 to 60C Emergency Economy Mode Available Emergency Power OFF Available Overall Efficiency 95% ON-Line Mode and 98.5% on Emergency Economy Mode DC Start Function Available Genertaor Compatible Available EMC Standard EN/IEC61000, EN/IEC 62040 Safety Standard GB/T 7260, GB/T4943, YD/T1095,TLC Protections Over load, Short Circuit, Over Temperature, Utility Power High/low, Battery Low, Alarm Mains Abnormal, Mains Fail, Fault, Battery Low, Overload, Short Circuit etc. Display Type LCD with Multiple showing Input Volatge, output Volatge, Battery Volatge , Temperature, UPS Status, ECO Mode etc.</p> <ul style="list-style-type: none"> • Input Specifications Output Power Factor 1 Output Voltage - Single Phase Output Voltage 220VAC Output Volatge Regulation 220+/-1% (Static Load), 220+/-2% (50-0% Sudden Change), 220+/-5% (100-0% Sudden Change) Output Frequency on (Bat Mode)50Hz (+/-0.1%) Output Wave Form Pure Sine Wave Load Crest Factor 3:1 • By-pass Specifications Static By-pass Transfer 0 msec Static By-passrange 80VAC +/- 5% to 285 +/- 5%. By-pass to Inverter Transfer Time <2 msec <p>Battery Specifications Qty 16 Battery Type VRLA, AGM Technology inside UPS</p>	International Recognized Brands DELL/APC Or Equivalent	02Nos				

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		VDC-Ah 12V/7Ah Charging Current 1A UPS Output Power DB for Industrial Sockets and critical load Incoming: 2 x63ADP,MCB Outgoing Path A: 4 x 32A SP MCB + 3x16A MCB Outgoing Path B: 4 x 32A SP MCB + 3x16A MCB PHASE INDICATION LIGHT SCHNEIDER (AD-16-22) PHASE INDICATION LIGHT SCHNEIDER (AD-16-22) Circuit breakers: Schneider Indication lights: Imported Surge protection <ul style="list-style-type: none"> • Communication Specifications Standard Communication Port Standard RS-232 Standard Communication. SNMP/RS485 & Dry Contact (Optional), Network manageable • Installation. Installation, Configuration, Commissioning and testing. Documentation CD, Installation guide, Supported Rack, rack Mounting brackets, Rack Mounting hardware with supported nails, warranty card 						
2.	Electric Generator Diesel	Generator 30KVA For Data Center Alternator: Frequency: 50Hz; Prime output: 30KVA/24eKW; Stand by output: 33KVA/26.4eKW; Voltage:230/400V Power factor: Three Phase 0.8; Excitation: Brushless, Rotating Exciter; Naturally Aspirated Insulation:Class F Genset type: Soundproof SINGLE Source ATS/AMF, 3-Pole MOR ATS 100A will motorized changeover and MOR Incoming: 100ATP, motorized changeover lke/ntc lke100 1 100ATP, mccb 15ka Schneider (ezc100n) 1 Phase indication light Schneider (ad-16-22) 6 Phase indication light Schneider (ad-16-22) 2 6a control fuse/cb Schneider 6 "2.5mm terminal block (20a) onka/pc cu	International Recognized Brands Caterpillar/Perkins/ISUZU Or Equivalent	01 Job				

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		(pc-2.5)2" Panel 2200x8000x600 1 Internally wired Construction of Foundation Pad Construction of 02 Nos of Rod Type Earth Pits Earthing and Grounding bore type :Building up Earth Pit (less than equal to 1 ohm resistance at Earth pit point at Ground level). Job complete in all respect with 2x35mm copper robs up to water/moisture level along with allied material and fittings. Engine: Engine: Type 3 In-lined, Direct Injected, Output Rating: bkW/rpm 31.6/1500; Number of cylinders: 3-105x127; Fuel: Diesel; Fuel Tank Capacity: 161L; Local Sound & Weather Attenuated Standard Canopy: subject to the clearance of 80-85 dBA at One Meter Applicable codes and standards must to comply with: AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC. AIR INLET SYSTEM Air cleaner; light duty with disposable element CONTROL PANELS Engine Mounted control panel EMCP 4.1 COOLING SYSTEM Radiator and cooling fan with guards Coolant drain line with valve Fan drive, battery charging alternator drive Extended Life Coolant EXHAUST SYSTEM Stub pipe, gaskets, rain cap & SAE exhaust flange for customer use FUEL SYSTEM Standard Open set Fuel tank / base supplied Base, formed steel with single wall integral 8-hour fuel tank; GENERATOR ATTACHMENTS 12 leads						

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		<p>IP23 Protection Voltage Regulator (single phase sensing) Tower Panel, IP22, bottom cable entry Segregated low voltage (AC/DC) wiring panel Circuit breaker, IEC, 3 pole, mounted in Tower Panel</p> <p>GOVERNING SYSTEM Mechanical governing system</p> <p>LUBE SYSTEM Lubricating oil Oil drain line with valve</p> <p>MOUNTING SYSTEM Captive linear vibration isolators between base and engine-generator Includes lifting provision and drag points Termination points for coolant and lube oil drain lines</p> <p>STARTING/CHARGING SYSTEM 12V Battery with rack & cables Main Tender points are as below: Foundation Pad suitable for 30 kVA</p> <p>industrial sockets 32 Amp, 3-Pin industrial sockets and plugs for 6 racks (Path A+B) Schneider</p> <p>brackets L brackets with fitting kits for industrial sockets</p> <p>Light Plug Light Plug for UPS utility</p> <p>Racks Power 6mm 3-core power cable from DB to Industrial sockets, air conditioners,</p> <p>Lighting Power Electrical wiring nodes for tube lights, emergency light, utility appliances</p> <p>Earth Cable 16mm single core Earth Cable Earth Pit Brass bar to Server Room</p> <p>Genset cable 25MM SQ S/C CU/PVC/PVC 600/1000V</p> <p>cable for UPS input 16mm 3-core copper cable for UPS input & output (10KVA + 10KVA UPS)</p> <p>Green Earth cable 4mm Green Earth cable for Earthing, anti static flooring, cable tray, Racks, DBs etc. in Server room</p> <p>Utility power 1.5mm STD cables for power utility (90-Meter/Single Core)</p> <p>Earthing DB DB for Earthing, Bus Bar</p> <p>PDU PDU, 13Amp, 8-sockets flat pin, Imported</p> <p>Services Installation, Testing & Commissioning of entire electrification System for industrial sockets, UPS wiring. Job</p>						

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		completion in all respect. <ul style="list-style-type: none"> • Manufacturer & Assembler/Coupler for Engine & Alternator should be same OEM. • Generator must comply these applicable codes and standards: AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC. • Supplier must be an authorized dealer of the OEM. Dealership certificate Requirement. • Supplier must have an operational workshop and parts facility in all Major Cities in Pakistan i.e. Karachi, Lahore, Multan, Faisalabad & Islamabad • Supplier must have more than 25-30 years of experience in the same field • Population List for the already supplied Gensets should be provided along with Bid. • Warranty for all equipment supplied will be of 12 months from date of commissioning. 						
3.	Floor Standing AC	AC 2.0 Ton for Data Center Cooling Cooling Btu/h : 24000 Rated Capacity (c) 6900 W Rated Power Consumption (c) 2350 W Running Current (c) 11 A SEER (c) 2.9 Electrical Data Rated Voltage 220-240V Rated Frequency 1PH, 50HZ MAX.INPUT CURRENT 16 A MAX.INPUT POWER 2700 W Technical Information Air Flow 1200 m3/h Air Flow Directions 4 WAY Fan Speed 530/480/430 Display Touch ID UNIT RESISTANCE CLASS 2P25 Sound Level 48 dB(A)	International Recognized Brands Gree/Orient Or Equivalent	02Nos				

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		Refrigerant R-410A/1420 Grams Dimensions (WxHxD) Indoor 506 × 1780 × 315 mm Outdoor 825 × 655 × 310 mm Weight Indoor 39 KG Outdoor 44 KG Warranty Compressor 10 Years Parts 1 Year R410A Gas 1 Year Installation Installation, Configuration, Commissioning and testing. Documentation CD, Installation guide, brackets, With Complete electric Cable Wiring, outer brackets, ducting, fixing, installation with Box and power Sockets						
4.	Furnishing Floor Raising work	Furnishing Floor Raising, Civil and Electric work For Data Center False Ceiling 350 Feet Provision & Supply of gypsum board laminated false ceiling with 1" wide imported powder coated "T"(CKM thick). With gauge No. 10 G.I wire hangers with adjustable mechanism. Paint Work Paint Work of server room and NOC area with best quality of paint complete in all respect. (Finished with water based plastic emulsion paint. Brand ICI, Berger or equivalent brand. Glass for Partition 220 Sqft Providing & Supply 12mm Glass partition fixed in Silver anodized full thickness aluminum H section (top and bottom section), glass to be non-wave clear and fine machine edged. Glass Door 01Nos Providing & Supply Glass Door 12mm Glass door (Approx size 3' x 7' each) with hinge and handles with lock fixed in Silver anodized full thickness aluminum H section (top and bottom section). Glass to be non-wave clear and fine machine edged with JAPAN made floor motors Windows concealing 02 Nos Exiting Windows concealing: Concealing: brick walls Job complete in all respect. Anti Static Tile 350 sqft	Local/Imported	01 Job				

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		Providing Anti-Static Tile of approved quality imported vinyl tiles (Mactile make plane 1.6 mm thick) or equivalent on the floor including skirting where required Floor Raising 6 Inch from existing Floor Raise using Bricks and Tiles Emergency light LED, job complete in all respect SMD Light Supply of SMD lights for server and UPS Room, size 600mmx600mm with assembly kit and hanging Bracket UTP Cabling for CCTV cameras in DC, UPS and NOC rooms PVC duct, pvc pipe, flexible pipe of different size for Air Conditioner piping, electrification, data cabling, camera's, access control and etc. Cable Tray/Cable Ladder 30 Feet Providing & Supply Cable Tray with roof made of Zinc Chadar 16 Gage with Machine Punched Holes along with Powder Coated Paint with Lockable Cover (Size 12 Inches Wide, 4 Inches Height and Length. With Fixing threading Rod 12mm, Pin Anchor Sleeve 12mm, Angle Iron 2" x1" for Cable Tray Supports Access Control System 01 Nos Providing & Supply Access Control System for Data Center Garbage disposal Job complete in all respect.						
5.	Fire & Security	Fire & Security work For <u>Data Center only</u> > Data Center Air Purifier Air outlet Top and sides Air inlet Bottom and sides filter change 6 months Clean air delivery rate (CADR) - Dust 850 m ³ per hour (500 cfm) > Heat Detection : Dual-sensor with fixed temperature and rate-of-rise Operating Modes: Smoke + Heat (OR logic) Smoke only Heat only > Digital Temperature Sensors With Alarm/Alerts Operating Temperature: 14°F – 104°F (-10°C to 40°C) > Humidity Sensor with Alarm/Alerts Operating Humidity: 10% to 85% RH, no condensation or icing Nominal Center Frequency : > Smoke Sensors With Alarm/Alerts Smoke & Heat Detector – 1 & 2 way 433.92 MHz, Smoke & > Fire Alarms With Alarm/Alerts	International Recognized Brands or Equivalent	01 Job				

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		<p>➤ Fire Suppressor System With Alarm/Alerts</p> <p>➤ Fire Extinguishers = 04 Operating Temperature -20 to 60c Safety Valve Wall hanging bracket Controllable discharge Rechargeable Weight: 5-7kg 1 year expiry</p> <p>➤ 10 Anti-Static Bands for IT Office/Staff Note: Installation, Configuration, Commissioning and testing. Documentation CD, Software CD, Installation guide, brackets, With Complete electric Cable Wiring, outer brackets, ducting, fixing, installation with Box and power Sockets</p>						
6.	Photocopying Machine	<p>1. Photo Copy Speed 25 CPM B/W, 2. Front Loading Design for space Saving, 3. USB Printing, 4. Image Server memory 2GB and above, 5. Copy Size A5 to A3, 6. Zoom range 25% -400%, 7. Three Way Power Supply, 8. Toner Life 30000 Prints@6% Coverage, 9. Continuous copying 1-9999, 10. Electronic Sorting Built in, 11. Resolution 1200x1200 dpi Print and 600x600 dpi scan or above 12. 7" Color Touch Panel, 13. Paper Capacity 350 Sheets, or above 14. Photocopier life of consumables may be of standard range, 15. Department Ids 1000 Users, 16. Advances Smoothing Technology, 17. Built in Duplex for two sided copies, 18. Network Color Scanner & Built in Wifi. 19. DADF-AZ1 & local Trolley. Machine Is provided with One Year warranty and free service along with replacement of defective parts</p>	International Recognized Brands Xerox Or Equivalent	08 Nos				

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		(excluding consumable ie Toner Drum Fixing Assembly)						
7.	Split AC	<p>2 Ton Split AC DC Inverter For offices and rooms Cooling Rated Capacity (c) 6400 (2800-7000) W Rated Power Consumption (c) 2020 (730-2600) W Running Current (c) 8.8 (3.4-11.4) A SEER (c) 3.6</p> <p>Heating Rated Capacity (h) 6400 (2900-7200) W Rated Power Consumption (h) 2020 (800-2700) W Running Current (h) 8.8 (3.6-11.8) A SEER (h) 3.6</p> <p>Electrical Data Rated Voltage 220-240V Rated Frequency 1PH, 50HZ Max.Input Power 2600 Watt Max.Input Current 11.5 A</p> <p>Technical Information Air Flow 1200 m3/h ID UNIT RESISTANCE CLASS 2P24 Sound Level 48 dB(A) Refrigerant R-410A/1300 Grams</p> <p>Dimensions (WxHxD) Indoor 1100 x 330 x 235 mm Outdoor 800 x 315 x 545 mm</p> <p>Weight Indoor 16 KG Outdoor 54 KG</p> <p>Warranty Compressor 10 Years Parts 1 Year R410A Gas 1 Year With Complete electric Cable Wiring, outer brackets, ducting, fixing, installation with Box and power Sockets</p>	International Recognized Brands Gree/Orient Or Equivalent	34				
8.	Paper Shredder	<p>PAPER SHREDDER 8-SHEET 4x25MM 16L 9951 Paper Shredder 8-sheet 4x25mm 16L Specification 330x220x475mm Material Nitriding carbon steel, ABS Packaging Colored corrugated box, /, 1pcs/carton Shredding Capacity 8 sheets(70gsm) Cut Type Cross cut Shred: Paper</p>	International Recognized Brands	01 No				
9.	Split AC	<p>1.5 Ton Split AC DC Inverter For offices and rooms Cooling Rated Capacity (c) 5200 (2200-5700) W Rated Power Consumption (c) 1640 (550-2200) W Running Current (c) 7.1 (2.5-9.7) A</p>	International Recognized Brands Gree/Orient Or	13				

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		<p>SEER (c) 3.6</p> <p>Heating Rated Capacity (h) 5200 (2400-6000) W Rated Power Consumption (h) 1600 (600-2300) W Running Current (h) 7.1 (2.6-10.2) A SEER (h) 3.6</p> <p>Electrical Data Rated Voltage 220-240V Rated Frequency 1PH, 50HZ Max.Input Power 2300 Watt Max.Input Current 10.5 A</p> <p>Technical Information Air Flow 1200 m3/h ID UNIT RESISTANCE CLASS 2P24 Sound Level 47 dB(A) Refrigerant R-410A/1300 Grams</p> <p>Dimensions (WxHxD) Indoor 1100 x 330 x 235 mm Outdoor 802 x 535 x 298 mm</p> <p>Weight Indoor 16 KG Outdoor 37 KG</p> <p>Warranty Compressor 10 Years Parts 1 Year R410A Gas 1 Year With Complete electric Cable Wiring, outer brackets, ducting, fixing, installation with Box and power Sockets</p>	Equivalent					
10.	UPS With Batteries	<p><u>UPS With Batteries For Security office/CCTV</u> Deep Cycle Solar Battery Long Life Rechargeable Type: Lead-Acid Batteries Discharge Rate: Low Discharge Rate Voltage 12V Single Battery 6 months warranty 18-24 months estimated battery life Environmental friendly No need to change /Re-fill water No check-up required Specially designed for Inverter and UPS Suitable for all weather conditions Maintenance free with 99.9% capacity efficiency</p> <p>UPS: 3000VA/2400Watt/24VDC/230VAC Inverter with built-in solar charger controller Ideal for home appliance/office equipment/lighting/motor-based loads Able to set priority to either solar input or AC input</p>	International Recognized Brands APC/Inverex/Homeage Or Equivalent	01				

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		Built-in MPPT to maximize solar energy harvest Pure sine wave output Specifications: Power 3000VA/2400Watt/24VDC/230VAC Capacity Suitable for: 10 Tube Lights or 25 Energy Savers 10 Fans & 1 Refrigerator (12Cu ft)						
11.	CCTV Security Centralize for University	<ul style="list-style-type: none"> • Camera Qty 64 • 4 MP Fixed Bullet Network Camera • High quality imaging with 4 MP resolution Efficient H.265+ compression technology • Clear imaging against strong back light with 120 dB WDR • Water and dust resistant (IP67) • EXIR 2.0, advanced infrared technology with long IR distance • NVR Qty 02 • 32-ch 1U 4K NVR • Up to 32 channel IP cameras can be connected • Supports decoding H.265+/H.265/H.264+/H.264 video formats Up to 4K high-definition live view, storage and playback • Up to 8-ch @ 1080p decoding capacity, Up to 256 Mbps high incoming bandwidth ensures IP cameras can be connected • 1 HDMI and 1 VGA interfaces: both interfaces support independent video output, 2 HDDs for continuous video recording • POE Switch as Per Cameras Installation • 8 Port Gigabit Unmanaged POE Switch • 8 × Gigabit PoE ports, 1 × Gigabit RJ45 port, 2 × Gigabit SFP fiber optical port, IEEE 802.3at/af standard, IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3ab, and IEEE 802.3z standard, 6 KV surgeprotection for PoE ports, PoE power management ,Gigabit network access 	International Recognized Brands Dhua/Hikvision Or Equivalent	01 Job				

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		<ul style="list-style-type: none"> • Wire-speed forwarding and non-blocking design, Store and-forward switching, Solid high-strength metal shell, Reliable fan-free design • 4TB (04 Seagate surveillance grade) • 1 meter Cat6 Ethernet patch cord As per Installation • UTP cable Roll and Cat-6 UTP RJ-45 Connectors • UPS 6KVA with Standard Backup • 02 (LED TV 40") With 2 HDMI Cables 10 Meter 						
12.	Metal Detector Hand held	<p>Operating Temperatures -35° F (-37° C) to 158° F (70° C)</p> <p>Humidity To 95% noncondensing</p> <p>Audio Frequency 2kHz Warble</p> <p>Tuning Automatic</p> <p>Indicators Speaker LED Alert Lights Green: Power ON Amber: Battery LOW Red: ALARM condition</p> <p>Controls Power switch (Audible / Off / Silent) Interference Elimination Momentary Switch</p> <p>Battery Single 9 volt battery provides u.p to 100 hours of normal operation. Optional NiMH rechargeable battery provides up to 45 hours on a single charge</p>	International Recognized Brands	05 Nos				
13.	Telephone Exchange	<p>Smart Hybrid IP Telephone System PBX (VoIP) A unified communication system which has rich IP features such as mobile linking, integrated voice mail and e-mail, instant messaging (chat), and presence information Support Up to 48 Lines & 128 Extensions Intelligent Hybrid PABX System</p> <ul style="list-style-type: none"> • Built-in applications such as <i>Call Centre Solution, Mobile Solution and Voice Mail System</i> • Auto Attendant, Call Forwarding, Call Waiting • Auto recording and backing-up conversations 	International Recognized Brands Cisco/Panasonic or Equivalent	01 Job				

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		<ul style="list-style-type: none"> • Automatic voice guidance • Call monitory and history reports • Mobile phone integration • Advanced call routing • Group extensions • The finest flexibility comes as standard, analogue and IP handset compatible • VOIP, PTSN, ISDN and GSM compatible • Integrated voice mail and e-mail, instant messaging (chat), and presence information. • Built-in DISA enables the transfer of customer calls without an operator • Record greeting messages, upload pre-recorded WAV file to be used as greeting message • Expandable with up to 3 expansion cabinets • Caller ID Built in CLI • IVR Built in DISA • UPS Built in UPS with POE setup for Telephone sets • GSM gateway for sms and Calls <p>Operator Console Included Main CPU Cortex A8 600 MHz Cortex A8 300 MHz Power Input 100 V AC to 130 V AC: 2.2 A/200 V AC to 240 V AC: 1.3 A; 50 Hz/60Hz Power Consumption (when fully mounted) 110 W External Backup Battery External battery port is supported Memory Backup Duration 7 years Dialling Trunk Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling Extension Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling Mode Conversion DP-DTMF, DTMF-DP Ring Frequency 20 Hz/25 Hz (selectable) Operating Environment Temperature 0 °C to 40 °C Humidity 10 % to 90 % (non-condensing) Conference Call Trunk From 10 x 3-party conference call to 4 x 8-party conference call - Music on Hold (MOH) Maximum 8 ports (Level Control: -31.5 dB to +31.5 dB per 0.5 dB) MOH: Selectable Internal/External Music</p>						

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		<p>Source port - External Paging Maximum 6 ports (Volume Control: -15.5 dB to +15.5 dB per 0.5 dB) - LAN Port 1 (for LAN connection) 10BASE-T/100BASE-TX (Auto MDI/MDI-X) - Extension Connection Cable SLT 1-pair wire (T, R) DPT 1-pair wire (D1, D2) or 2-pair wire (T, R, D1, D2) PT-interface CS 1-pair wire (D1, D2) PT-interface CS (Highdensity) 4-pair wire (D1, D2) DSS Console and Addon Key Module 1-pair wire (D1, D2) Air-cooling Method Fan Dimension 430 mm (W) x 88 mm (H) x 367 mm (D) Weight (when fully mounted) Under 4.5 kg Web Maintenance Console Accounts Users (User) 500 accounts Users (Administrator) 8 accounts Installer 1 account Password (all account types) 4 – 16 characters Total Number of Trunks 100 Ch Legacy 36 Ch BRI – PRI30 30 E1 30 Analogue 12 H.323 32 Maximum Terminal Equipment Extensions (DXDP*1) 162 (168) Legacy (DXDP*1) 34 (40) SLT 32 DSS Console 8 Built-in UM (ch) 24 1 Year Warranty Of System Complete Installation of VOIP Solution with Basic IP Desktop Phone 60 VOIP Telephone Sets with CLI, HD audio and Speaker Phone, Handset, Speaker, Headset Volume 8 levels (includes echo cancellation and distortion prevention) Ringtones 27 Ringer Volume 8 levels + Off Headset Port RJ9 jack</p>						

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		Audio Codec G.711a-law / G.711μ-law / G.722 (wideband) / G.729a HD Voice Yes Phone Book (Local) 500 LDAP Remote Phonebook Yes Call Log Entries 30 incoming calls + 30 outgoing calls Conferencing 3 parties (within terminal – multi-party dependent on server) Music on Hold Supplied by Host Service (PBX / SIP Server) IP Version IPv6 / IPv4 SIP Compatibility RFC 3261 Standard SIP Server, Asterisk, Broadsoft, Panasonic IP PBX with 1 Year Warranty						
14.	Walk Through Gate	Walk Through Gate for Security Technical Parameters Vertical dimension 2190×535x892mm Vertical channel dimension 2030x716mm Probe door panel packing dimensions 2270x700x230mm Net weight of main cabinet/detection door panel 45KG Gross weight of main cabinet/detection door panel 52KG Operating voltage AC90V~240V 50/60Hz Power dissipation 15W Operating frequency range 1—20 Bands Working environmental temperature -20°C~65°C Installation environment (W) 100cm*(L) 200cm(metal-free minimum range) sheet transverse Regional detect metal precision range Maximum Sensitivity ≥6g Metal Technical Standards	International Recognized Brands	02 Nos				

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		Electrical refer to EN60950 safety standard Compliance Radiation refer to EN50081-1 standard Compliance Anti-interference refer to EN50082-1 standard Compliance						
15.	LED TV	Display Screen Size 65" Resolution 3,840 x 2,160 Video Picture Engine Quantum Processor 4K • Motion Rate 200 • PQI (Picture Quality Index) 3000 • HDR (High Dynamic Range) Quantum HDR 4x • HDR 10+ Yes • Contrast Mega Contrast • HLG (Hybrid Log Gamma) Yes • Color Volume 100% by Quantum Dot • Viewing Angle Wide Viewing Angle • Micro Dimming Supreme UHD Dimming • Contrast Enhancer Yes • Auto Motion Plus Yes • Film Mode Yes • Natural Mode Support Yes Audio • Dolby Digital Plus Yes • Dialog Enhancement Yes • Sound Output (RMS) 20W • Speaker Type 2CH • Multiroom Link Yes • Bluetooth Audio Yes Smart Service • SMART TV Smart • US English, Korean, UK English, French, German, Italian, Spanish (features vary by language) • Far-Field Voice Interaction Yes • Web Browser Yes • SmartThings App Support Yes • SmartThings Yes • Gallery Yes Convergence • TV to Mobile - Mirroring Yes • Mobile to TV - Mirroring, DLNA Yes	International Recognized Brands Original Samsung/Sony Or Equivalent	05 Nos				

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		<ul style="list-style-type: none"> •360 Video PlayerYes •360 Camera SupportYes •Bluetooth Low EnergyYes •WiFi DirectYes •TV Sound to MobileYes •Sound MirroringYes Localization •Analog Clean ViewYes •Triple ProtectionYes Tuner/Broadcasting •Digital BroadcastingDVB-T2C •Analog TunerYes •TV KeyYes Connectivity •HDMI4 •USB2 •Component In (Y/Pb/Pr)1 •Composite In (AV)1 (Common Use for Component Y) •Ethernet (LAN)Yes •Digital Audio Out (Optical)1 •RF In (Terrestrial / Cable input)1/1(Common Use for Terrestrial)/0 •HDMI A / Return Ch. SupportYes •HDMI Quick SwitchYes •Wireless LAN Built-inYes •Anynet+ (HDMI-CEC)Yes Design •DesignNew Edge •Bezel TypeSNB •Slim TypeSlim •Front ColorCharcoal Black •Stand TypeSimple •Stand ColorCharcoal Black Additional Feature •AI TechnologyYes •AI UpscaleYes •AmbienceYes •Ambient Mode Brightness/Color SensorYes •AccessibilityLearn menu screen(AU English, France, Germany, Spain)/ SeeColors/ Negative colors/ Grayscale/ Voice guide(AU 						

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		English, France, Germany, Spain)/ Enlarge/ High contrast/ Learn TV Remote(AU English, France, Germany, Spain)/ Multi-output Audio •Digital Clean ViewYes •Auto Channel SearchYes •Auto Power OffYes •Caption (Subtitle)Yes •Connect Share™ (HDD)Yes •ConnectShare™ (USB 2.0)Yes •EPGYes •Extended PVRYes •Game ModeYes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer) •FreesyncFreeSync •OSD LanguageLocal Languages •BT HID Built-inYes •USB HID SupportYes •Teletext (TTX)Yes •Time ShiftYes •IPv6 SupportYes •MBR SupportYes Eco Feature •Eco SensorYes Power •Power SupplyAC100-240V 50/60Hz •Power Consumption (Max)205 W •Power Consumption (Stand-by)0.50 W Dimension •Package Size (WxHxD)1611 x 975 x 178 mm •Set Size with Stand (WxHxD)1456.1 x 917.0 x 322.8 mm •Set Size without Stand (WxHxD)1456.1 x 836.6 x 59.2 mm •Stand (Basic) (WxD)1086.5 x 322.8 mm Weight •Package Weight34.0 kg •Set Weight with Stand26.4 kg •Set Weight without Stand26.0 kg Accessory •Remote Controller ModelTM1950C •Batteries (for Remote Control)Yes •Smart Control (Included)Yes						

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		•Mini Wall Mount SupportYes •Vesa Wall Mount SupportYes •User ManualYes Power CableYes						
16.	Spot Lights with stands	Standard	International Recognized Brands	02 Nos				

Plant & Machinery for Hostel

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	Geyser	Steel body with capacity of 35 gallon	Local	1				
2.	Stoves (Burner) for kitchen	Full size (48 nali wali)	Local	6				
3.	Burner for Tandoor	Full size (14")	Local	2				
4.	Freezer (Triplet)	Full size	International Recognized Brands Dawlance/Pel or Or Equivalent	3				
5.	Refrigerator	18 cft.	International Recognized Brands Dawlance/Pel or Or Equivalent	3				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
6.	Stove (for Student use)	Double burner steel body standard size	Local	6				
7.	Water Cooler (Electric)	Steel body, Standard size	Local	5				
8.	Cooking Utensils	Large size Silver Steel (Size round 6.8' x H: 1.2' x W: 2.3')	Local	4				
9.	Geyser	Steel body with Capacity of 55 gallons	Local	6				
10.	Street lights (LED)	100 watts LED Lights with 1year warranty	Local	14				
11.	LED TV	65" LED TV for Hostel Hall	International Recognized Brands Samsung/Sony Or Equivalent	1				

Plant & Machinery for Webinar Room

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	Sound System	06 ceiling mount speakers, 02 wall mount speakers, 02 Wireless 4 in one Mic System (Collar Mic, Hand Held Mic, Table Mic and FM Frequency receiver), Audio Power Amplifier. Fitting included. With One Year Warranty of each product. Room Measurement Width 28ft Length 50ft	International Recognized Brands	01 Job				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

Plant & Machinery for Auditorium

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	Sound System	12 wall mount speakers, Audio Power Amplifier with noise cancelation features Wireless 4 in 1 mic Stage audio monitor Fitting included. With One Year Warranty of each product. Room Length As per Actual On Sight.	International Recognized Brands	01 Job				

Annexure "B"

Mass Communication TV Studio & NLE

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	4 TB Transcend External Drives	4 TB External Drives	International Recognized Brands	2				
2.	Zhiyun tech crane v2 3-axis handheld gimbal stabilizer	Zhiyun tech crane v2 3-axis handheld gimbal stabilizer	International Recognized Brands	4				
3.	Tamron SP 24-70mm f/2.8 Di VC USD G2 Lens for Canon EF	Tamron SP 24-70mm f/2.8 Di VC USD G2 Lens for Canon EF	International Recognized Brands	1				

PROCUREMENT OF PLANT&MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
4.	Samyang 35mm cine lens T1.5	Samyang 35mm cine lens T1.5	International Recognized Brands	1				
5.	Samyang 50mm T.1.5 lens	Samyang 50mm T.1.5 lens	International Recognized Brands	1				
6.	Samyang 85mm lens f/1.4	Samyang 85mm lens f/1.4	International Recognized Brands	1				
7.	Samyang 14mm f/2.8 ED AS IF UMC Lens	Samyang 14mm f/2.8 ED AS IF UMC Lens	International Recognized Brands	1				
8.	Canon 70-200mm lens f/2.8	Canon 70-200mm lens f/2.8	International Recognized Brands	1				
9.	JVC camcorder GY-HM190AG USMlens	JVC camcorder GY-HM190AG USMlens	International Recognized Brands	4				
10.	Acebil tripod 605DX	Acebil tripod 605DX	International Recognized Brands	4				
11.	Libec dolly DL-2	Libec dolly DL-2	International Recognized Brands	4				
12.	Swit battery for camcorder	Swit battery for camcorder	International Recognized Brands	8				
13.	Genelec Audio	Genelec Audio monitoring system Genelec	International	2				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
	monitoring system Genelec 8020A	8020A	Recognized Brands					
14.	Data video wired talkback system ITC-100 with 04 CB-03, 20 meter extension cables	Data video wired talkback system ITC-100 with 04 CB-03, 20 meter extension cables	International Recognized Brands	1				
15.	Sennheiser handheld wireless microphone EW135G4	Sennheiser handheld wireless microphone EW135G4	International Recognized Brands	2				
16.	Sennheiser collar wireless microphone EW112G4	Sennheiser collar wireless microphone EW112G4	International Recognized Brands	4				
17.	Camera mount LED lights for ENG	Camera mount LED lights for ENG	International Recognized Brands	6				
18.	Portable LED Light set with stand/case	Portable LED Light set with stand/case	International Recognized Brands	3				
19.	Canare video cable 200 meter	Canare video cable 200 meter	International Recognized Brands	4				
20.	Canare Crimping Plug BNC-BCP-B3F	Canare Crimping Plug BNC-BCP-B3F	International Recognized Brands	100				
21.	Canare Coaxial Cable Stripper tool (TS100E) (Zip ties is quoted below in pack of 100)	Canare Coaxial Cable Stripper tool (TS100E) (Zip ties is quoted below in pack of 100)	International Recognized Brands	1				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
22.	Canare Die Set TC-1 with TCD-35CA Die 1 Set	Canare Die Set TC-1 with TCD-35CA Die 1 Set	International Recognized Brands	1				
23.	Genelec Audio monitoring system Genelec 8020A	Genelec Audio monitoring system Genelec 8020A	International Recognized Brands	2				
24.	Behringer B2 microphones	Behringer B2 microphones	International Recognized Brands	2				
25.	LED TV 50" for control panel with full accessories	LED TV 50" for control panel with full accessories	International Recognized Brands	2				
26.	Black magic design ATEM Television Studio Pro HD	Black magic design ATEM Television Studio Pro HD	International Recognized Brands	1				
27.	SanDisk 480GB Extreme Pro Solid State Drive SDSSDXPS- 480G-G24	SanDisk 480GB Extreme Pro Solid State Drive SDSSDXPS- 480G-G25	International Recognized Brands	2				
28.	Sonifex dual line telephone hybrid	Sonifex dual line telephone hybrid	International Recognized Brands	1				
29.	Black magic design Mini Analog To SDI Converter	Black magic design Mini Analog To SDI Converter	International Recognized Brands	1				
30.	Black magic design Mini SDI To Analog Converter	Black magic design Mini SDI To Analog Converter	International Recognized Brands	1				
31.	Black magic design hyper deck studio Pro	Black magic design hyper deck studio Pro	International Recognized	1				

PROCUREMENT OF PLANT&MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
			Brands					
32.	Sandisk memory cards 64GB	Sandisk memory cards 64GB	International Recognized Brands	12				
33.	Silicon power memory card reader	Silicon power memory card reader	International Recognized Brands	3				
34.	Yamaha audio mixer MG-124CX	Yamaha audio mixer MG-124CX	International Recognized Brands	1				
35.	Behringer headphones for monitoring HPM-999	Behringer headphones for monitoring HPM-1000	International Recognized Brands	4				
36.	Proel Microphone cable HPC 210 (100m)	Proel Microphone cable HPC 210 (100m)	International Recognized Brands	4				
37.	IM HDMI Cable 20 Meter HDMI-20M (4K capable)	IM HDMI Cable 20 Meter HDMI-20M (4K capable)	International Recognized Brands	6				
38.	Black magic UltraStudio 4K	Black magic UltraStudio 4K	International Recognized Brands	1				
39.	Thunderbolt Cable OEM	Thunderbolt Cable OEM	International Recognized Brands	2				
40.	Neutrik 3Pin XLR Male and Female Connectors pair	Neutrik 3Pin XLR Male and Female Connectors pair	International Recognized Brands	30				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
41.	Toten Broadcast Rack OEM-42RU	Toten Broadcast Rack OEM-42RU	International Recognized Brands	1				
42.	Emerson Liebert (GXT6000MTPLUS230) UPS 5KVA GXTMTPLUS Online 6000VA/4800W 230V PF 0.8 LCD Tower, Standard Backup	Emerson Liebert (GXT6000MTPLUS230) UPS 5KVA GXTMTPLUS Online 6000VA/4800W 230V PF 0.8 LCD Tower, Standard Backup	International Recognized Brands	2				
43.	PREVIEW MONITORS on Camera Monitor 7"	PREVIEW MONITORS on Camera Monitor 7"	International Recognized Brands	2				
44.	Lighting Grid: 16 Guage, 2" dia grid pipe dimensions 32'x28', grid space from roof 1.5 ft with Primer coat (01) and Black Paint coating (02), roof mounted brackets (30), wall mounted brackets (15), welding rod (03 box), disc cutting (02), disc grinding (02), Rawal Bolts, Transportation, Labour.	Lighting Grid: 16 Guage, 2" dia grid pipe dimensions 32'x28', grid space from roof 1.5 ft with Primer coat (01) and Black Paint coating (02), roof mounted brackets (30), wall mounted brackets (15), welding rod (03 box), disc cutting (02), disc grinding (02), Rawal Bolts, Transportation, Labour.	International Recognized Brands	1				
45.	Breakout boxes 8 AV input & AV outputs	Breakout boxes 8 AV input & AV outputs	International Recognized	1				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
			Brands					
46.	Talkback patch panels 4 ports	Talkback patch panels 4 ports	International Recognized Brands	1				
47.	Complete equipment installation and configuration, lighting grid installation and electrical work charges - 01 job	Complete equipment installation and configuration, lighting grid installation and electrical work charges - 01 job	International Recognized Brands	1				
48.	Technical training with basic hardware (01 week)	Technical training with basic hardware (01 week)	International Recognized Brands	1				
49.	ONAIR LIGHT	ONAIR LIGHT	International Recognized Brands	3				
50.	Electrical material, wiring from main DB to studio, individual circuit breakers for lights, main 60 circuit breaker, Sub DB in studio, termination, clamps, sockets for lights, wiring from Sub DB to lights etc	Electrical material, wiring from main DB to studio, individual circuit breakers for lights, main 60 circuit breaker, Sub DB in studio, termination, clamps, sockets for lights, wiring from Sub DB to lights etc	International Recognized Brands	1				
51.	Installation material and accessories, patching cables, cable ducts,	Installation material and accessories, patching cables, cable ducts, power sockets, cable trays, additional accessories to complement the system	International Recognized Brands	1				

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
	power sockets, cable trays, additional accessories to complement the system							
52.	Rolling Steps/Ladder	Rolling Steps/Ladder	International Recognized Brands	1				
53.	Cool lights includes, c-clamp and safety chain, power cord	Cool lights includes, c-clamp and safety chain, power cord	International Recognized Brands	12				
54.	Roll down back drops size 7'x10'	Roll down back drops size 7'x10'	International Recognized Brands	2				
55.	2-Ton Split AC for MCR & Studio	2-Ton Split AC for MCR & Studio	International Recognized Brands	3				
56.	Yamaha audio mixer MG-124CX	Yamaha audio mixer MG-124CX	International Recognized Brands	1				
57.	ANTI STATIC RAISED FLOORING for Control Room WOOD, CORE 600 * 600 * 38mm with vinyl sheet on top. Wooden floor with termite treatment	ANTI STATIC RAISED FLOORING for Control Room WOOD, CORE 600 * 600 * 38mm with vinyl sheet on top. Wooden floor with termite treatment	International Recognized Brands	100				
58.	Broadcast table with equipment docs and concealed cable system	Broadcast table with equipment docs and concealed cable system and hollow legs 8'x3'	International Recognized Brands	1				

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
	and hollow legs 8'x3'							
59.	Media Equipment Storage Cabinet 8'x10'x2'	Media Equipment Storage Cabinet 8'x10'x2'	International Recognized Brands	1				
60.	NLE Lab with workstations desks on two walls 34' each	NLE Lab with workstations desks on two walls 34' each	International Recognized Brands	1				
61.	Electrical material sockets, power cables etc for NLE lab (termination from main DB will be provided by client)	Electrical material sockets, power cables etc for NLE lab (termination from main DB will be provided by client)	International Recognized Brands	1				
62.	Networking points for 20 workstations with complete wiring and I/O	Networking points for 20 workstations with complete wiring and I/O	International Recognized Brands	1				
63.	Installation material for NLE lab	Installation material for NLE lab	International Recognized Brands	1				

PROCUREMENT OF PLANT & MACHINERY

Plant & Machinery

Annexure "C"

Day Time Net Metering (On Grid) Solar System For Administrative, BS, Ma Library, Physics, A Block, Post Graduate Block

S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
1.	PV Panels	<p><u>Electric Specification</u> STC rated output (Pmpp)* 320 Wp Rated voltage (Vmpp) at STC 37.02 Rated current (Impp) at STC 8.65 Open circuit voltage (Voc) at STC 45.45 Short circuit current (Isc) at STC 9.25 Module efficiency 16.5% Rated output (Pmpp) at NOCT 223.5 Wp Rated voltage (Vmpp) at NOCT 33.80 V Rated current (Impp) at NOCT 6.61 A Open circuit voltage (Voc) at NOCT 41.70 V Short circuit current (Isc) at NOCT 7.15 A Temperature coefficient (Pmpp) - 0.408%/°C Temperature coefficient (Isc) +0.050%/°C Temperature coefficient (Voc) - 0.311%/°C Normal operating cell temperature (NOCT) 46±2°C Maximum system voltage (IEC/UL) 1000VDC or 1500VDC Number of diodes 3 Junction box IP rating IP 67 Maximum series fuse rating 15 A</p> <p><u>Mechanical Specification</u> Outer dimensions (L x W x H) 1960 x 992 x 40</p>	International Recognized Brands Or Equivalent	1450 Nos				

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		mm 77.17 x 39.06 x 1.57 in Frame technology Aluminum, silver anodized Module composition Glass / EVA / Backsheet (white) Front glass thickness 3.2 mm / 0.13 in ① Cable length (IEC/UL) 1150 mm / 45.28 in Cable diameter (IEC/UL) 4 mm ² / 12 AWG ② Maximum mechanical test load 6000 Pa (front) / 3600 Pa (back) Fire performance (IEC/UL) Class C (IEC) or Type 1 (UL) Connector type (IEC/UL) MC4 compatible <u>Packing Specification</u> Weight (module only) 21.9 kg / 48.28 lbs ② Packing unit 27 pcs / box Weight of packing unit (for 40'HQ container) 636 kg / 1402 lbs Number of modules per 40'HQ container 648 pcs						
2.	Inverter 60KW	Input DC Power 65000W-72000W DC input Voltage 1000v DC Input Current 120A(4x30A). Output Rated Output Power 50000W-60000W Output Power 55KVA-66KVA Output Current 80A-96A Rated Grid voltage 400V Grid Voltage Range 310-480V Grid Frequency 50GHz/60GHz	International Recognized Brands Or Equivalent	08 Nos				

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		Grid Frequency Range 55Hz/65Hz THD <2% Under the rated power Power factor >0.9 Dc current injection <0.5% System Data Max Efficiency 98.7%-98.9% Euro Efficiency 98.3%-98.5% Humidity range 0-95% Colling type Intelligent Forced air Temperature Range -25-60 °C Max Working altitude 4000m Display two line LCD/Two LEDES Communication Interface RS485/GPRS Mechanical Data Dimension 670x960x3000m Weight 75Kg Protection Class IP65 Standard Grid Connected standard NB/T32004-2013; GB/T19964-2012 Saftey Standard NB/T32004-2013;IEC 62109-1/2 Electromagnetic compatibility IEC 61000-6-2/4						
3.	Fixed Frames	12 Guage Galvanized Rust Protected frames & Fixtures for PV Panels, Strong enough and capable to withstand high speed wind long life structure	International Recognized Brands Or Equivalent	01 Nos				
4.	Local Material	Cabling, Earth wire, Earthling Rod, Fuses on DC, Breaker on AC Bus bar Panel Bus bar	International Recognized	01 Nos				

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		Glind nut 25mm PVC connector 100 amp Thimble 16mm Tape (Red+Yellow+Blue+Black) BREAKER + FUSE + SPD MCB 3 Pole 16 Amp MCB 4 Pole 100 Amp SPD AC Side Cable DC 4mm Cable (bus bar to inverter) 4 Core 6mm Cable (meter to bus bar)4 core 10mm EARTHING Cable (Flexible)10mm Yellow Green Clamp 1/2" Lightning Arrester Rod 1/2" x 5' Saddle 7mm PIPE Cable tie 6" Flexible pipe 1"+1.5" PVC pipe 1" PVC SOCKET + bend + Tee 1" Saddle (Steel) 1" PV MC4 connector PV panel Astronergy 320W Panel Nut, Bolt & Washers 1/4 , 3/4 PV Structure Fix Frame (2 panel) Legs+Feet	Brands Or Equivalent					

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S/No	Name of Equipment	Specifications	Required Brand	Quantity	Unit Price (w/o GST)	17% GST	Unit Price with GST	G. Total (with GST)
		PV Structure nut, bolt & washers Rawal Bolt 8mm x 3" Silicon Large INVERTER Box for breaker Box for Disconnect Switch Inverter Rawal plug Screw Wooden screw 1.5" Net Metering Plate						
5.	Installation	Installation of Panel, Testing & Commissioning. Complete in all respect	Local	01 Nos				
6.	Net Metering License	Net Metering License and Bi Directional Meter IESCO Fee.	Local	01 Nos				