

Minimum required Technical Specifications		(Your Company Name)	
S#	General Passive Specifications	Change required	Remarks
Item- 1	CAT 6, 4 Pair UTP LSZH Cable		
1	This Cat 6 Communication Cable should be UL Listed / ETL verified or equivalent standard and complies with the CAT 6 performance requirements of edition 1.0 of latest (ISO/IEC 11801-1,) <p>The Cat 6 requirements of ANSI/EIA/TIA-568.2-D</p> <p>Flame retardancy is verified according to latest IEC 60332-1-2, edition 3.1 of IEC 61034-2:2013 and edition 2.0 of IEC 60754-2:2011. In case of single cable and IEC 60332-3-22 in case of bunch of cables.</p>		
2	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP Solid bare Copper (Conductor Size: 23 AWG Solid type).		
4	Category 6 should operate on bandwidth up to 250MHz as per International standard.		
5	4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
6	Conductor Insulation material should be High Density Polyethylene/Polyolefin & Sheath: LSZH, Insulation Thickness 0.2 mm Nominal		
7	Operating Temperature Range: - 5°C to +60°C		
Item-2	CAT 6 INFORMATION OUTLET (PANEL AND FACE PLATE SIDE)		
1	RJ-45 Category 6		
2	Terminating 4 Pairs 23 AWG UTP cable.		
3	Comply with ANSI/TIA/EIA-568-D		
4	Operating life: Minimum 200 insertion cycles		
5	Certifications: UL Listed / ETL Verified		
6	Connection module should be CAT 6 with Reliable insulation displacement contacting (IDC) (dust cover to be provided as part of the I/O or Faceplate)		
7	Each module should have a Label with colour wiring Configuration T568A/T568B.		
8	OEM to submit UL Listed / ETL verified or equivalent standard reports.		
Item-3	24 PORT CAT6 JACK PANEL/PATCH PANEL UNLOADED		
1	24 Port RJ-45 Category 6 Patch Panel Fully Loaded		
2	1RU Height		
3	Terminating 4 Pairs 23 AWG UTP cable.		
4	Comply with proposed ANSI/TIA/EIA-568-C.2.		
5	Operating life: Minimum 200 insertion cycles		
6	Certifications: UL Listed / ETL Verified		
7	Panel should supply with 19" Rack mountable , port number 1-24 on the front of the panel , Each keystone Jack should have a colour wiring Configuration T568A/T568B.		
8	Should have self-adhesive, clear label holders and designation labels with the panel, with optional color labels / icons.		
9	Material: sub-rack made of sheet steel 1.5 mm, panel frame / screen made of plastic (ABS), halogen-free.		
10	Each port / jack on the panel should be individually removable on field from the panel.		
Item-4	UTP Cat 6 Patch Cord.		
1	RJ-45 4 Pair Category 6 Patch Cords - 1, 2 & 3 Meters		
2	8-position modular plugs on both ends with factory moulded Boot/strain relief clip.		
3	Conductor size: 24 -26 AWG stranded bare copper		
4	Operating life: Minimum 500 insertion cycles		
5	Contact blade: Copper Alloy		
6	Contact plating: 03µm" Gold or better		
7	All specifications of CAT 6 cable mentioned at Item - "1" must also be met.		
Item-5	FIBER CABLE OUTDOOR 6 CORE OM4 MULTIMODE		
1	Minimum Cores 6 OM4		
2	The Fiber is optimized for operation at 850 nm and 1300 nm.		
3	50/125 µm MM Fiber		

4	Should be as per IEC 60794-1-2 E1; IEC 60794-1-2 E11; IEC 60794-1-2 E3; IEC 60794-1-2 F1; IEC 60794-1-2 E4; IEC 60794-1-2 E7; IEC 60794-1-2 E10		
5	Should be armored with ECCS tape (i.e. Corrugated Steel Tape Armoured)		
6	Cable Jacket material : Low Smoke Zero Halogen		
7	Central Loose Tube Jelly compound, Glass Yarn in between Steel Tape & Loose Tube.		
8	Corrugated Steel Tape Armoured		
9	Jacket Material Should be HDPE/LSZH		
10	Outer diameter Should be min. 9 ± 0.3 mm		
11	Thickness of the Jacket Should be 1.8 ± 0.2 mm		
12	Pulling Tension: Short Term 2000N, Long term 1000N, Crush Load: 3000N/100mm		
13	The Fiber Operating Temperature: -10°C to $+50^{\circ}\text{C}$		
14	The Fiber Max Attenuation 2.8 (db / km) at Operational Wavelength 850 nm & 0.8 (db / km) at Operational Wavelength 1300 nm.		
Item-6	Face Plate		
1	Single Gang square plate, 86mmx86mm		
2	Write on labels in transparent plastic window - supplied with plate		
3	Should have dust cover		
Item-7	LIU 12/24/48 Port Rack Mountable 19" Loaded with LC Duplex adaptors, Pigtails and Splice holders		
1	Metal sliding style Loaded as per design for 12/24/48 Fiber with Easily removable Top plate /Front Cover with push buttons		
2	12/24/48 Port LC type 1U		
3	Should include Single Mode or Multi Mode pigtails and adaptors as per design and BOQ.		
4	Tray Material should be ABS		
5	Adaptors in LIU should be UL Listed/ ETL Verified		
6	Adaptors should have dust covers		
7	Should have option for Visual coding / mechanical coding, and lock protection.		
Item-8	Patch Cord LC - LC OM4 3,5,9 meter		
1	Patch Cord Should be Multi Mode OM4 bend optimised		
2	Type of Connector LC-LC		
3	Jacket Material: LSZH		
4	Should have option for Visual coding, mechanical coding and lock protection for security purpose .		
Item-9	Cable manager.		
1	Rack Mountable 19"		
2	Other specifications if any.		

Minimum required Technical Specifications		(Your Company Name)	
S#	Passive Specifications	Change required	Remarks
Item-1	CAT 6A, 4 Pair UTP LSZH Cable		
1	This Cat 6A Communication Cable should be UL Listed / ETL verified or equivalent standard and complies with the CAT 6A performance requirements of edition 1.0 of latest (ISO/IEC 11801-1,) The Cat 6a requirements of ANSI/EIA/TIA-568.2-D Flame retardancy is verified according to latest IEC 60332-1-2, edition 3.1 of IEC 61034-2:2013 and edition 2.0 of IEC 60754-2:2011. In case of single cable and IEC 60332-3-22 in case of bunch of cables.		
2	CAT 6A UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP Solid bare Copper (Conductor Size: 23 AWG Solid type).		
4	CAT 6A should operate on bandwidth up to 500MHz as per International standard.		
5	4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
6	Conductor Insulation material should be High Density Polyethylene/Polyolefin & Sheath: LSZH, Insulation Thickness 0.2 mm Nominal		
7	Operating Temperature Range: - 5 °C to +60 °C		
Item-2	CAT 6A INFORMATION OUTLET (PANEL AND FACE PLATE SIDE)		
1	RJ-45 CAT 6A		
2	Terminating 4 Pairs 23 AWG UTP cable.		
3	Comply with ANSI/TIA/EIA-568-B or latest		
4	Operating life: Minimum 500 insertion cycles		
5	Certifications: UL Listed / ETL Verified		
6	Connection module should be CAT 6A with Reliable insulation displacement contacting (IDC) (dust cover to be provided as part of the I/O or Faceplate)		
7	Each module should have a Label with colour wiring Configuration T568A/T568B.		
8	OEM to submit UL Listed / ETL verified or equivalent standard reports.		
Item-3	24 PORT CAT 6A JACK PANEL/PATCH PANEL UNLOADED		
1	24 Port RJ-45 CAT 6A Patch Panel Fully Loaded		
2	1RU Height		
3	Terminating 4 Pairs 23 AWG UTP cable.		
4	Comply with proposed ANSI/TIA/EIA-568-C.2.		
5	Operating life: Minimum 200 insertion cycles		
6	Certifications: UL Listed / ETL Verified		
7	Panel should supply with 19" Rack mountable , port number 1-24 on the front of the panel , Each keystone Jack should have a colour wiring Configuration T568A/T568B.		
8	Should have self-adhesive, clear label holders and designation labels with the panel, with optional color labels / icons.		
9	Material: sub-rack made of sheet steel 1.5 mm, panel frame / screen made of plastic (ABS), halogen-free.		
10	Each port / jack on the panel should be individually removable on field from the panel.		
Item-4	UTP CAT 6A Patch Cord.		
1	RJ-45 4 Pair CAT 6A Patch Cords - 1, 2 & 3 Meters		
2	8-position modular plugs on both ends with factory moulded Boot/strain relief clip.		
3	Conductor size: 24 -26 AWG stranded bare copper		
4	Operating life: Minimum 500 insertion cycles		
5	Contact blade: Copper Alloy		
6	Contact plating: 03Mµ" Gold or better		
7	All specifications of CAT 6A cable mentioned at Item - "1" must also be met.		
Item-5	FIBER CABLE OUTDOOR 6 CORE OM4 MULTIMODE		
1	Minimum Cores 6 OM4		
2	The Fiber is optimized for operation at 850 nm and 1300 nm.		
3	50/125 µm MM Fiber		
4	Should be as per IEC 60794-1-2 E1; IEC 60794-1-2 E11; IEC 60794-1-2 E3; IEC 60794-1-2 F1; IEC 60794-1-2 E4; IEC 60794-1-2 E7; IEC 60794-1-2 E10		
5	Should be armored with ECCS tape (i.e. Corrugated Steel Tape Armoured)		

6	Cable Jacket material : Low Smoke Zero Halogen		
7	Central Loose Tube Jelly compound, Glass Yarn in between Steel Tape & Loose Tube.		
8	Corrugated Steel Tape Armoured		
9	Jacket Material Should be HDPE/LSZH		
10	Outer diameter Should be min. 9 ± 0.3 mm		
11	Thickness of the Jacket Should be 1.8 ± 0.2 mm		
12	Pulling Tension: Short Term 2000N, Long term 1000N, Crush Load: 3000N/100mm		
13	The Fiber Operating Temperature: -10° C to +50° C		
14	The Fiber Max Attenuation 2.8 (db / km) at Operational Wavelength 850 nm & 0.8 (db / km) at Operational Wavelength 1300 nm.		
Item-6	Face Plate		
1	Single Gang square plate, 86mmx86mm		
2	Write on labels in transparent plastic window - supplied with plate		
3	Should have dust cover		
Item-7	LIU 12/24/48 Port Rack Mountable 19" Loaded with LC Duplex adaptors, Pigtails and Splice holders		
1	Metal sliding style Loaded as per design for 12/24/48 Fiber with Easily removable Top plate /Front Cover with push buttons		
2	12/24/48 Port LC type 1U		
3	Should include Single Mode or Multi Mode pigtails and adaptors as per design and BOQ.		
4	Tray Material should be ABS		
5	Adaptors in LIU should be UL Listed/ ETL Verified		
6	Adaptors should have dust covers		
7	LIU enclosure design & Material must have provision for rodent entry control/protection (i.e to prevent entry of rodents inside LIU)		
8	Should have option for Visual coding / mechanical coding, and lock protection.		
Item-8	Patch Cord LC - LC OM4 3,5,9 meter		
1	Patch Cord Should be Multi Mode OM4 bend optimised		
2	Type of Connector LC-LC		
3	Jacket Material: LSZH		
4	Should have option for Visual coding / mechanical coding and lock protection for security purpose .		
Item-9	Cable manager.		
1	Rack Mountable 19"		
2	Other specifications if any.		
Item-10	FIBER CABLE OUTDOOR 6 /12 CORE Single Mode OS1		
1	Minimum Cores 6/12 OS1 as per BOQ		
2	The Fiber is optimized for operation at 1310 nm and 1550 nm.		
3	9/125 µm MM Fiber		
4	Should be as per IEC 60794-1-2 E1; IEC 60794-1-2 E11; IEC 60794-1-2 E3; IEC 60794-1-2 F1; IEC 60794-1-2 E4; IEC 60794-1-2 E7; IEC 60794-1-2 E10		
5	Should be armored with ECCS tape (i.e. Corrugated Steel Tape of 0.150 mm Armoured)		
6	Cable Jacket material : Low Smoke Zero Halogen		
7	Central Loose Tube Jelly compound, Glass Yarn in between Steel Tape & Loose Tube.		
8	Corrugated Steel Tape Armoured		
9	Jacket Material Should be LSZH		
10	Outer diameter Should be min. 8.5+1.0 mm		
11	Thickness of the Jacket Should be 1.8 ± 0.2 mm		
12	Pulling Tension: Short Term 2000N, Long term 1000N, Crush Load: 3000N/100mm		
13	The Fiber Operating Temperature: -10° C to +60° C		
14	The Fiber Max Attenuation 0.38 db/km at Operational Wavelength 1310 nm & 0.25 db/km at Operational Wavelength 1550 nm		
Item-11	Patch Cord LC - LC Single Mode OS1 3,5,9 meter		
1	Patch Cord Should be Single Mode OS1 bend optimised		
2	Type of Connector LC-LC		
3	Jacket Material: LSZH		
4	Should have option for Visual coding, mechanical coding and lock protection for security purpose .		

S#	Minimum required Technical Specifications for Core Switch (L3)	(Your Company Name)	
		Change required	Remarks (If any)
Form Factor			
1	19" Rack Mountable 1U Height with Redundant Power Supply (RPS) from day 1		
Architecture			
2	Switch Should support memory of minimum 8 GB DRAM and 8 GB Flash memory or more to support multiple software images for backup purposes, log report and future scalability (DRAM can be increased to 16)		
3	The switch throughput of minimum 2 Tbps or more from day 1		
4	Traffics handling capacity should be minimum 300 Mpps from Day 1		
	Should support jumbo frames		
5	The switch should have Redundant, Hot Swapable Power supply from day one		
6	Should have at least 100k IPv4, 50k IPv6 routes and 16k Multicast Routes		
7	Switch should support Clustering/stacking of at least 2 switches through stacking / MC-LAG or equivalent technology		
8	All modules/ SFP, fan trays & Power supplies should be hot swappable		
Interfaces			
9	Minimum 24 x 1/10/25 Gbps SFP+ from day 1 (SM/MM SFPs as per requirement)		
10	Should support at least 4 x 40/100 Gbps Uplink Interfaces (SM/MM SFPs as per requirement)		
Protocols			
11	Should have static routing, RIP, OSPF, OSPFv3, uRPF, VRRP, PBR, IP SLA/RPM or equivalent PIM, PIM SSM, BGP, MPLS L3 VPN, Layer 2 VPN		
12	IEEE Standards IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae, 802.3x, 802.1p, 802.1Q, 1588v2/NTP		
13	Segmentation Protocol Network segmentation protocols VXLAN and VRF/virtual router, EVPN.		
14	Atleast 32K MAC Addresses and atleast 4000 active VLAN.		
15	Should Support management protocols SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+.		
16	IPv6 Ready from day 1		
Security			
17	802.1x authentication and accounting, IPv4 and IPv6 ACLs, Dynamic VLAN assignment and MACSec-128 on hardware for all ports. Should support SSH, TLS, IPSEC		
18	IPv6 Security IPv6 RA Guard, IPv6 DHCP Guard/DHCP snooping, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.		
19	Telemetry & Visibility using Netflow/jflow/sflow, SPAN, RSPAN /Remote Port Mirroring		
20	Should support SDN functionality using open /Rest APIs/NETCONF/RESTCONF using YANG/XML data models for external tools to automatically provision network resources/configuration from day one.		
21	Should support QOS 802.1p class of service, marking, classification, policing and shaping and eight egress queues.		
22	The switch/ switch series and Switch OS should be EAL3/NDPP/NDcPP certified under Common Criteria.		
23	All required Cables, Accessorieis and Licences should be provided from Day-1		
Warranty & Support			
24	5 Years on-site warranty & support from the date of Acceptance		

S#	Minimum required Technical Specifications for Distribution Switch	(Your Company Name)	
		Change required	Remarks (If any)
Form Factor			
1	19" Rack Mountable 1U Height with Redundant Power Supply (RPS) from day 1		
Architecture			
2	The switch should have sufficient RAM/ DRAM/ Flash memory or more to support multiple software images for backup purposes, log report and future scalability		
3	The single switch throughput of minimum 1.2 Tbps or more from day 1		
4	Single switch traffic handling capacity should be minimum 200 Mpps from Day 1		
5	Minimum MAC Addresses 32K		
6	Should support jumbo frames		
7	The switch should have Redundant Power supply from day one		
8	Should have 100k IPv4, 50k IPv6 routes and 16k Multicast Routes		
9	All modules/ SFP, fan trays & Power supplies should be hot swappable		
Interfaces			
10	Minimum 24 x 1/10/25 Gbps SFP+ Ports from day 1 (SM/MM SFPs as per requirement)		
11	Should support 4 x 40/100 Gbps Uplink Interfaces (SM/MM SFPs as per requirement)		
Protocols			
12	Should have static routing, RIP, OSPF, OSPFv3, uRPF, VRRP, PBR, IP SLA/RPM or equivalent, PIM, PIM SSM		
13	IEEE Standards IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae, 802.3x, 802.1p, 802.1Q, 1588v2/NTP		
14	Segmentation Protocol Network segmentation protocols VXLAN and VRF/virtual router, EVPN.		
15	Atleast 32K MAC Addresses and atleast 4000 active VLAN.		
16	Should Support management protocols SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+.		
17	IPv6 Ready from day 1		
Security			
18	802.1x authentication and accounting, IPv4 and IPv6 ACLs, Dynamic VLAN assignment and MACSec-128 on hardware for all ports. Should support SSH, TLS		
19	IPv6 Security IPv6 RA Guard, IPv6 DHCP Guard/DHCP snooping, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.		
20	Telemetry & Visibility using Netflow/jflow/sflow, SPAN, RSPAN /Remote Port Mirroring		
21	Should support SDN functionality using open / Rest APIs/NETCONF/RESTCONF using YANG/XML data models for external tools to automatically provision network resources/configuration from day one.		
22	Should support QOS 802.1p class of service, marking, classification, policing and shaping and eight egress queues.		
23	The switch/ switch series and Switch OS should be EAL3/NDPP/NDcPP certified under Common Criteria.		
24	All required Cables, Accessoris and Licences should be provided from Day-1		
Warranty & Support			
25	5 Years on-site warranty & support from the date of Acceptance		

S#	Minimum required Technical Specifications for Edge Switch	(Your Company Name)	
		Change required	Remarks (If any)
Form Factor			
1	19" Rack Mountable 1U Height		
Architecture			
2	The switch should have sufficient RAM/ DRAM/ Flash memory or more to support multiple software images for backup purposes, log report and future scalability		
3	The switch throughput of minimum 256 Gbps from day 1		
4	Traffic handling capacity should be minimum 95 Mpps from Day 1		
5	Should support jumbo frames		
7	Minimum MAC Addresses 24K		
8	All modules/SFP should be hot swappable		
Interfaces			
9	Minimum 24 x 1G copper ports from day 1		
10	Should have 4 x 10/25G Uplink Interfaces with (SFP+s as per requirement)		
Protocols			
11	Should support Static, OSPF, PIM		
12	IEEE Standards IEEE 802.1d, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1q, 802.3, 802.3ab, 802.3z		
13	Should Support Access List/ Firewall Filters, IPv6, NTP, SNMP, TACACS/RADIUS AAA, IEEE 802.1Q VLAN		
14	IPv6 Ready from day 1		
Security			
15	802.1x authentication and accounting, IPv4 and IPv6 ACLs, Dynamic VLAN assignment		
16	Should support MACSec-128 for all ports. Should support SSH, TLS		
17	IPv6 Security IPv6 RA Guard, IPv6 DHCP Guard/DHCP Snooping, IGMP snooping, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.		
18	Should Support Access List/ Firewall Filters, QoS, Policy based routing, IPv6, NTP, SNMP, TACACS/RADIUS AAA		
19	Telemetry & Visibility using Netflow/jflow/sflow, SPAN, RSPAN / remote port mirroring		
20	The switch & switch OS should be EAL3/NDPP/NDcPP certified under Common Criteria.		
21	All required Cables, Accessoris and Licences should be provided from Day-1		
Warranty & Support			
22	5 Years on-site warranty & support from the date of Acceptance		

S#	Description	2 KVA Online	(Your Company Name) Comments
1.	Technology	Microprocessor Controlled, Double Conversion, PWM IGBT Inverter with LCD Display for UPS status monitoring	
2.	Isolation	NA	
3.	Input Voltage Range	160-270 VAC	
4.	Input Power	>0.9	
5.	Input Frequency	45-55Hz	
6.	Out Put Voltage	230+/-2%, 50Hz	
7.	Output Power Factor	0.8	
8.	Frequency	50Hz+/-0.5%	
9.	Efficiency	>85%	
10.	Wave Form	Pure Sine wave	
11.	Total Harmonic Distortion (THD)	<3% for linear load, & 6% nonlinear load	
12.	Over Load Capacity	Up to 125% for 60 Sec	
13.	Back up Time	Minimum 2 hours back up on full load	
14.	Battery, Backup and with Battery Rack	SMF Batteries with Minimum of 6048 VAH for 2 hrs. With Battery rack. Battery rack should be covered & lockable for security of batteries with proper ventilation.	
15.	Charger capacity	<8 hours up to 90%.	
16.	Battery Make	DGS&D or JIS C8702 compliant	
17.	Protections	Low Battery, over load, over temperature,	
18.	Operating	0-40°C	
19.	Optional	RS 232/USB, SNMP Compatibility	
20.	Noise:	<50dB up to 1 meter	
21.	Product Quality Standard and certification	ISO 9001:2008 or higher, 14001:2004 or higher & BIS Certification.	
22.	Compatibility	DG Set	

S#	Description	3 KVA Online	(Your Company Name) Comments
1.	Technology	Microprocessor Controlled, Double Conversion, PWM IGBT Inverter with LCD Display for UPS status monitoring	
2.	Isolation	NA	
3.	Input Voltage Range	160-270 VAC	
4.	Input Power	>0.9	
5.	Input Frequency	45-55Hz	
6.	Out Put Voltage	230+/-2%, 50Hz	
7.	Output Power Factor	0.8	
8.	Frequency	50Hz+/-0.5%	
9.	Efficiency	>85%	
10	Wave Form	Pure Sine wave	
11	Total Harmonic Distortion (THD)	<3% for linear load, <6% nonlinear load	
12	Over Load	Up to 125% for 60 Sec	
13	Back up Time	Minimum 2 hours back up on full load	
14	Battery, Backup and with Battery Rack	SMF Batteries with Minimum of: 9600 VAH for 2 hrs. With Battery rack. Battery rack should be covered & lockable for security of batteries with proper ventilation.	
15	Charger capacity	<8 hours up to 90%.	
16	Battery Make	DGS&D or JIS C8702 compliant	
17	Protections	Low Battery, over load, over	
18	Operating	0-40°C	
19	Optional	RS 232/USB, SNMP Compatibility	
20	Noise:	<50dB up to 1 meter	
21	Product Quality Standard and	ISO 9001:2008 or higher, 14001:2004 or higher & BIS Certification.	
22	Compatibility	DG Set	

S#	Description	5 KVA Online	(Your Company Name) Comments
1.	Technology	Microprocessor Controlled, Double Conversion, PWM IGBT Inverter with LCD Display for UPS status monitoring	
2.	Isolation	UPS must be provided with Internal Isolation Transformer at output for total isolation between input & output.	
3.	Input Voltage	160-270 VAC	
4.	Input Power	>0.9	
5.	Input	45-55Hz	
6.	Out Put Voltage	Single Phase 230+/-2%, 50Hz	
7.	Output Power Factor	0.8 for 5 KVA/0.7 for 6KVA	
8.	Frequency	50Hz+/-0.5%	
9.	Efficiency	>85%	
10.	Wave Form	Pure Sine wave	
11.	Total Harmonic Distortion (THD)	<3% for linear load, <6% nonlinear load	
12.	Over Load	Upto 125% for 60 Sec & upto 150% load	
13.	Back up Time	Minimum 2 hours back up on full load	
14.	Battery, Backup and with Battery Rack	SMF Batteries with Minimum of: 16128 VAH for 2 hrs With Battery rack. Battery rack should be covered & lockable for security of batteries with proper ventilation.	
15.	Charger	<8 hours up to 90%.	
16.	Battery Make	DGS&D or JIS C8702 compliant	
17.	Protections	Low Battery, over load, over	
18.	Operating	0-40°C	
19.	Optional	RS 232/USB, SNMP Compatibility	
20.	Noise:	<50dB up to 1 meter	
21.	Product Quality Standard and	ISO 9001:2008 or higher, 14001:2004 or higher & BIS Certification.	
22.	Compatibility	DG Set	

S#	Description	10 KVA online	(Your Company Name) Comments
1.	Technology	Microprocessor Controlled, Double Conversion, PWM IGBT Inverter with LCD Display for UPS status monitoring	
2.	Isolation	UPS must be provided with Internal Isolation Transformer at output for total isolation between input & output.	
3.	Input Voltage	Three phase (320 - 480 VAC)	
4.	Input Power	>0.9	
5.	Input Frequency	45-55Hz	
6.	Out Put Voltage	Single Phase 230+/-2%,	
7.	Output Power Fac	0.8	
8.	Frequency	50Hz+/-0.5%	
9.	Efficiency	>85%	
10.	Wave Form	Pure Sine wave	
11.	Total Harmonic Distortion (THD)	<3% for linear load, <6% nonlinear load	
12.	Over Load	Upto 125% for 60 Sec & upto 150%	
13.	Back up Time	Minimum 2 hours back up on full	
14.	Battery, Backup and with Battery Rack	SMF Batteries with Minimum of: 38400 VAH for 2 hrs With Battery rack. Battery rack should be covered & lockable for security of batteries with proper ventilation.	
15.	Charger	2A -10A Configurable	
16.	Battery Make	DGS&D or JIS C8702 compliant	
17.	Protections	Low Battery, over load, over	
18.	Operating	0-40'C	
19.	Optional	RS 232/USB, SNMP Compatibility	
20.	Noise:	<65dB up to 1 meter	
21.	Product Quality Standard and	ISO 9001:2008 or higher, 14001:2004 or higher & BIS	
22.	Compatibility	DG Set	

Note: - The Weight of SMF Batteries with UPS System is given as under: -

S#	Item description	Recommended Weight of SMF Battery (KG)
1	SMF Batteries (VRLA) 12V/200AH	65.00
2	SMF Batteries (VRLA) 12V/150AH	45.00
3	SMF Batteries (VRLA) 12V/120AH	37.00
4	SMF Batteries (VRLA) 12V/100AH	31.00
5	SMF Batteries (VRLA) 12V/75AH	23.00
6	SMF Batteries (VRLA) 12V/70AH	22.00
7	SMF Batteries (VRLA) 12V/65AH	21.00
8	SMF Batteries (VRLA) 12V/42AH	14.00
9	SMF Batteries (VRLA) 12V/26AH	8.50
10	SMF Batteries (VRLA) 12V/17/18AH	5.50
11	SMF Batteries (VRLA) 12V/7AH	2.00

Variation in weight of battery up to -5% can be accepted. The higher weight then the recommended weight to any extent is acceptable.