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GOVERNMENT OF INDIA
(Ministry of Home Affairs)
DIRECTORATE GENERAL
CENTRAL RESERVE POLICE FORCE
EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066

Email:- comncell@crpf.gov.in Tele Fax:011-26107493

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13/12/19

No. B.V-7/2018-19-C (QRS)

Dated, the 6 December 2019

To

DIG (Prov), SSB
East Block-V, R. K. Puram
New Delhi-66

Subject: Regarding Revised QRs/TDs of "Hardware for Advance Data Processing & Research Institute (ADRIN) based software COPs & BOPs".

Please find enclosed here with revised QRs and TDs in respect of "Hardware for Advance Data Processing & Research Institute (ADRIN) based software COPs & BOPs" as per Annexure-A & Annexure-B respectively duly approved by the competent authority for further necessary action.

Encl: (QRs & TDs of Hardware for Advance Data Processing & Research Institute (ADRIN) based software COPs & BOPs).

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6-12-19
(Vaibhav kr Sriwastava, AC(UAV))
For DIG (Equipment)
Directorate General, CRPF

S No	Item	Qualitative Requirements
1.	Server Type	Rack mountable model
2.	Processors	2 Nos. of Intel XEON Platinum 8100 Processor family or higher - each with minimum of 28 cores or more @ 2.5 GHz or higher, 38 MB cache or higher
3.	Main Memory	256GB DDR4 with ECC (8x32GB DDR-4). The memory should be expandable up to 1TB.
4.	Storage along with RAID controller	10 TB usable and expandable up to 16 TB with 2.5" hot plug SAS with 10K RPM 12Gbps configured in RAID 6, RAID controller with 2GB cache or higher
5.	I/O Slots	Minimum 3 Nos of PCIe Gen3 slots
6.	N/W Interface	2 Nos of 10GbE Ports along with SFP Transceiver + 2 Nos of 1GbE Ports.
7.	Interface	Minimum 4 USB ports (minimum 2 front side)
8.	Storage connectivity	1 x 02 ports, 16 Gbps Fibre HBA (Host Bus Adapter)
9.	Keyboard & mouse	USB 2.0 or higher compatible keyboard and mouse.
10.	Optical Media	DVD RW-8x or higher
11.	Graphics	Graphics card should be Server Grade with minimum 2GB memory or higher
12.	Operating System	Latest available Windows server Operating System with necessary licenses for two CPU sockets and media kit
13.	Power Supply	Redundant Indian standard power supply for both CPU sockets
14.	Accessories	Rack mountable kit and Necessary power adapter and cables
15.	Monitors	1 No of 24" monitors with 1920 x 1200 resolution support with all interface and power cables
16.	Warranty	5 Years Comprehensive 06 hours CTR (Call to Resolution) onsite warranty

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17	Rack	42U rack for mounting server, Storage with necessary mounting kit, keyboard tray Fans with Indian standard power sockets accommodating both 5Amps and 15 Amps and power distribution units (2 Nos min)
All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks.		

Ajay Kumar Sharma, IAS
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Sunil Kumar, IAS
SSB

S/T Vijith P,
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Vikas Manjrasa
DC, CISF

Haridasan P.P.,
SI/RM, BSF

Sanjay Anandache
AC-II, NSG

Umesh Chandra Sati,
Lt Col, Assam Rifles

(B. S. Daswal)
Dy Inspector General (Prov)

Remarks of the SDG, SSB
Approved / Not approved-

S. Chavan
(Jyotirmay Chakravarty, IPS)
Special Director General, SSB

Remarks of THE DG, SSB
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K.R. Chakrabarti
(Kumar Ramesh Chandra, IAS)
Director General, SSB

(A. K. Singh)
IG (Prov)

Qualitative Requirements of DATABASE SERVER

S No	Item	Qualitative Requirements
1.	Server Type	Rack mountable model
2.	Processors	2 Nos. of Intel XEON Platinum 8100 Processor family or higher - each with minimum of 28 cores or more @ 2.5 GHz or higher, 38 MB cache or higher
3.	Main Memory	256GB DDR4 with ECC (8x32GB DDR-4). The memory should be expandable up to 1TB.
4.	Storage along with RAID controller	10 TB usable and expandable up to 16 TB with 2.5" hot plug SAS with 10K RPM 12Gbps configured in RAID 6, RAID controller with 2GB cache or higher
5.	I/O Slots	Minimum 3 Nos of PCIe Gen3 slots
6.	NAW Interfaces	2 Nos. of 10GbE Ports along with SFP Transceiver + 2 Nos. of 1GbE
7.	Interfaces	Minimum 4 USB ports (minimum 2 front side)
8.	Storage connectivity	1 x 02 ports, 16 Gbps Fibre HBA (Host Bus Adapter)
9.	Keyboard & mouse	USB 2.0 or higher compatible keyboard and mouse
10.	Optical Media	DVD RW-8x or higher
11.	Graphics	Graphics card should be Server Grade with minimum 2GB memory or higher
12.	Operating System	Latest available Windows server Operating System with necessary licenses for two CPU sockets and media kit
13.	Power Supply	Redundant Indian standard power supply for both CPU sockets
14.	Accessories	Rack mountable kit and Necessary power adapter and cables
15.	Monitors	1 No of 24" monitors with 1920x1200 resolution support with all interface and power cables.

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16	Warranty	5 Years Comprehensive 06 hours CTR (Call to Resolution) onsite warranty All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks
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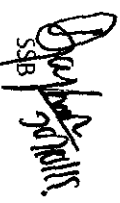
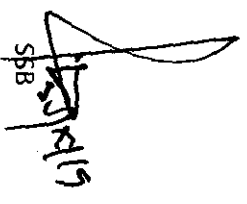
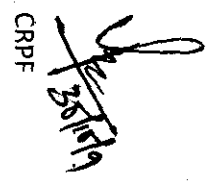
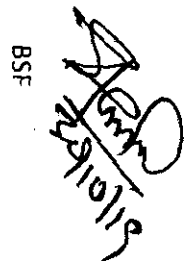
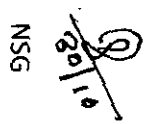
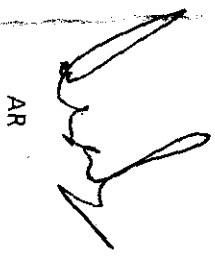

J. Chakravarty
(Jyotirmay Chakravarty, IPS)
Special Director General, SSB

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K. R. Choudhury
(Kumar Rajesh Choudhury, IPS)
Director General, SSB

S No	Item	Qualitative Requirements of Desktop	Qualitative Requirements
1.	Form Factor	Desktop	
2.	Processor Configuration	Intel Core i7-8 th generation or higher with Intel graphic (3.2GH, or higher, 12MB Cache, 6 Cores or higher) / AMD Ryzen 7.	
3.	Processor make	Intel / AMD	
4.	Processor Generation	8 th Generation or above	
5.	Chipset	Intel Q370 or higher / AMD B350 or higher	
6.	Type of Graphic	Discrete	
7.	Graphic Card	4GB or higher	
8.	RAM size (GB)	16 GB DDR4 or higher	
9.	RAM Expandability	64 GB or higher	
10.	RAM speed	2400 or higher	
11.	Storage	512GB SSD and 2TB SATA(HDD)	
12.	Operating system	Windows 10 Professional (64 Bit)	
13.	Network Interface Connectivity	10/100/1000 on board integrated Gigabit Port)	
14.	Wi-Fi connectivity	Yes	
15.	Ports	VGA/HDMI/DP, USB Ports - available	
16.	DVD	DVD/R WRITER	
17.	Keyboard & mouse	USB keyboard & Optical Scroll mouse	

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18.	Monitor	27-inch LED monitor, IPS panel (Full HD)
19.	Warranty	5 Years Comprehensive onsite warranty
20.	* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks, TFT, keyboard and Mouse should be from the same OEM.	

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K.R. Chandrasekhar
(Kumar Rakesh Chandra IPS)
Director General, SSB

Qualitative Requirements of Laptop

S No	Item	Qualitative Requirements
1.	Form Factor	Laptop
2.	Processor Configuration	Intel Core i7-8 th generation or higher (1.8 GHz, 4MB, Quad Cores or higher) or AMD Ryzen 7. or higher
3.	Processor make	Intel, AMD
4.	Processor Generation	8 th Generation or above.
5.	Type of Graphic	Discrete
6.	Graphic Card	2GB or higher
7.	RAM size (GB)	8 GB DDR4 or higher
8.	RAM Expandability	32GB or higher
9.	RAM speed	2400.MHz or higher
10.	Storage	512 GB SSD or higher and 1TB HDD or higher
11.	Operating system	Windows 10 Professional (64 Bit)
12.	Network Interface Connectivity	Ethernet Gigabit 10/100/1000
13.	Wi-Fi connectivity	802.11 a/b/g/n available
14.	Ports	VGA, HDMI, USB Ports, card reader
15.	DVD	External DVD/R WRITER
16.	Keyboard & mouse	USB keyboard & Optical Scroll mouse
17.	Display	15.6-inch Full HD display

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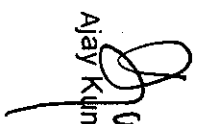
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18.	Display Resolution	1920 x 1080 pixel
19.	Carry Case	Include
20.	Touch screen	Optional
21.	Warranty	Battery 03 years, system 05 years
22.	Chassis	Mil-810G

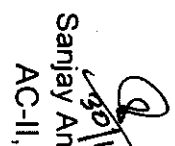
* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks.



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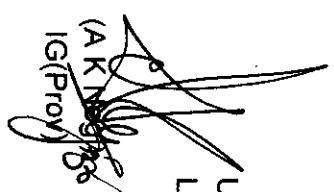

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SSB

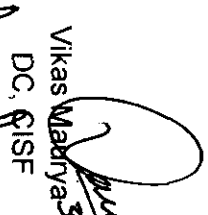

Haridasan P.P., SSB
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Report of the DG, SSB
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K. R. Choudhary
(Kumar Rajesh Choudhary, IPS)
Director General, SSB

Qualitative Requirements of UNIFIED STORAGE

S No	Item	Qualitative Requirements
1.	Type	Rack Mounted Model
2.	Capacity	Unified System 300 TB Usable Capacity (60TB on SSD, 90TB SAS and 150 on NL-SAS Drive with 7.2 K RPM. The disk array to be populated with dual ported hot-swappable drives, redundant power supply and fans, hot-swappable disks.
3.	Controllers	Storage Should configured with Two redundant hot-swappable active-active RAID controllers configured for RAID 0, 1, 5, & 6 RAID levels or better. The useable capacity should be configured on RAID 6 or better. For every 30 disk, one spare disks needs to be configured over and above the required capacity.
4.	Cache	The storage should be provided with minimum 64 GB cache across controller. It should have the ability to protect data on cache. Cache should be mirrored and battery / Super capacitors backed. Cache backup should be at least 72 hours.
5.	Scalability	Storage should support Minimum of 250 disks (LFF). The Storage System should support for SSD, SAS 2.5" drives, 3.5" NL SAS/SATA drives.
6.	Cables	Set of fibre optic cables with LC-LC connectors 5 m long (for each active 16 G, ports on the storage and Cat5 cable for 1G ports).
7.	Management	Storage management software for configuration and multi - pathing to be supplied (part of the supply).
8.	Snapshot Licenses	Storage should be supplied with Snapshot license of the provisioned capacity (part of the supply). Snapshot should be minimum 10% of usable capacity.
9.	Protocol Support	Storage should support FC, iSCSI, CIFS and NFS protocols
10.	Front-End Ports	The array shall be supplied with 4 X 10 Gbps & 4 x 16 Gbps Fibre Chanel ports native for (NFS, CIFS)
11.	Backend-ports	Storage should be configured with dual SAS 3.0 or higher (4 Lanes x @ 12 Gbits) backend ports
12.	Operating system Support	All leading operating system platforms and clustering including Windows Server 2008/2012/2016(enterprise Edition) and Enterprise Linux.
13.	Disks	Storage should support 1/2/3/4/6TB LFF 7200RPM SATA/NL- SAS drives and 1.2TB/1.8TB SAS Drives and 1.92 TB/3.84/7.68TB SSD Drives.
14.	Firmware	(ii) On line micro code upgrade and disk expansion upgrade without downtime
15.	Performance	(ii) Configuration in "No Single Point of Failure" for disk drives, power supply. The proposed storage model should support 2,00,000 IOPS

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16. Management	(i) Easy to use GUI based and web enabled administration interface for configuration, storage management. (ii) Storage management software must be intuitive, browser-based user interface that configures and manages SAN and NAS environment using single GUI. (iii) Storage should be provided with System management tools - Web GUI, CLI, SNMP, SMI-S, IPV6, Email notification, wake on LAN (iv) Should offer real time performance monitoring tools giving information on CPU utilization, volume throughput, I/O rate and latency. (v) Quota Management. 5 Years Comprehensive 06 hours CTR (Call to resolution) onsite warranty
17. Warranty	
18.	* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks.

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(Kumar Rajesh Chandra, IPS)
Director General, SSB

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IO/Pro

Qualitative Requirements of Workstation

S No	Item	Qualitative Requirements
1.	Form Factor	Workstation
2.	Processor Configuration	Dual Intel Xeon Gold 5118, 2.3 G, 12C/24T, 10.4GTs 2UPI, 16M Cache, Turbo, HT (105W) DDR4-2400 or higher
3.	Number of Processor	2
4.	Processor make	Intel
5.	Chipset	Intel C612 or higher
6.	Type of Graphic	Discrete
7.	Graphic Card	4 GB or higher
8.	RAM size (GB)	64 GB DDR4
9.	RAM Expandability	384 GB or higher
10.	Storage	2TB SSD (Hard Disk Drive) 2TB x 2 HDD
11.	Operating system	Windows 10 Professional (64 Bit)
12.	Network Interface Connectivity	(Dual Gigabit NIC 10/100/1000)
13.	Wi-Fi connectivity	802.11 a/b/g/n/ac
14.	Ports:	VGA/HDMI/DP, USB Ports - available
15.	DVD	DVD/R WRITER
16.	Keyboard & mouse	USB keyboard & Optical Scroll mouse

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17	Monitor	27-inch LED monitor, IPS panel (Full HD)
18	Warranty	3 Years Comprehensive onsite warranty

* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks, TFT, keyboard and Mouse should be from the same OEM

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(Kumar Rajesh Choudhary, IPS)

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Director General, SSB

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IG/PIO

Qualitative Requirements of UPS 10 KVA

S No	Item	Qualitative Requirements
1.	10 KVA UPS online	10 KVA Online double conversion and signal processor control UPS AC Input 230V frequency 40-60 hz, AC Out Put, Battery bank and their mounting racks should be separate. Connecting cable should be 10 metres or higher.
2.	Display & alarm unit	Shall display health of UPS. For configuring Servers and administration of whole network.
3.	Warranty (UPS & Battery)	3 Years Comprehensive onsite warranty
*10 KVA UPS should be three (03) phased and must provide minimum 2 hrs backup on full load.		

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Special Director General, SSB

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K.R. Chandra
(Kumar Rajesh Chandra, IPS)
Director General, SSB

Qualitative Requirements of A3 Color Duplex Laser Printer

S. No.	Item	Qualitative Requirements
1.	Cartridge Technology	Separate Drum & Toner
2.	Print Speed (A4)- Mono	30 PPM or more
3.	Print Speed (A4)- Color	30 PPM or more
4.	Network Capability	Yes
5.	Wireless	Yes
6.	Simplex	Yes
7.	Duplex	Yes
8.	Resolution	1200x1200 dpi or more
9.	Paper Size	A4 & A3
10.	Paper Tray Capacity	250 Sheets or more
11.	Number of Paper Trays	Two trays (A3 & A4 paper) and bypass tray
12.	Memory	2GB or more
13.	Storage	250GB or more
14.	Print Language	UFR - II / PCL / Post Script
15.	Connectivity	USB and Ethernet

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16	Features	Duplex support
17	Warranty	3 years comprehensive onsite warranty

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Special Director General, SSB

Remarks of the DG, SSB
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K. R. Chandra
Kumar Rajesh Choudro, IPS
Director General, SSB

Qualitative Requirements of Network Switch

S No	Item	Qualitative Requirements
1.	Ports	24 port of 1G base -T AND 4 X 10G SFP + PORTS
2.	Switching capacity	64Gbps or higher
3.	Management	Web based GUI
4.	L2 Features	MAC Address table of 16K entries or more , Static MAC Addresses 1K or more, Spanning Tree Protocol, Part Mirroring, 802.3ad Link Aggregation, Jumbo Frame

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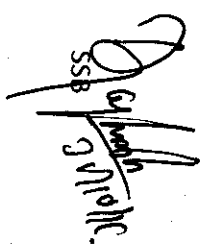
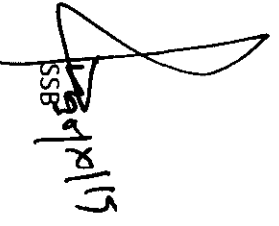
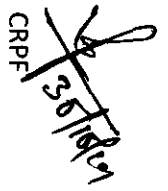

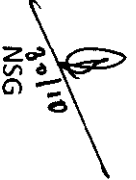

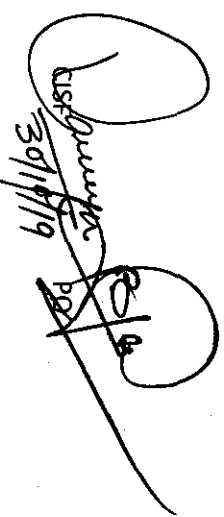
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K.R. Choudhary
(Kumar Rasesh Choudhary, IPS)
Director General, SSB

Qualitative Requirements of LARGE FORMAT PRINTER

S No	Item	Qualitative Requirement
1	Printing Technology	Inkjet
2	Type Of Printing	Color
3	Size	44 Inch (106.7cm) – A4
4	Printing Speed	1A0 per Minute
5	Printing Resolution	2400 x 1200 Dpi
6	Print Applications	Line Drawings, GIS, Renderings, Presentations, Posters, cloth & banners
7	Memory	2GB or more
8	Storage	320 GB OR MORE
9	Interface	Ethernet 10/100 / 1000
10	USB Port	Yes
11	Media Type	Plain Paper, coated paper, tracing paper, glossy paper, matte paper, satin paper, film, adhesive media, cloth
12	Media Weight Handling Range	Up to 280 GSM
13	Ink Color (Minimum)	6 or more
14	Roll Handling Capacity	2 No.

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 BSF 3/11/19

15	Size of rolls to be handled	44 inch minimum
16	Manual Cut Sheet Feed	Yes
17	Embedded Post Script	Post script 3 or higher
18	Power Consumption	0.5 Watt (maximum) Sleep Mode, 190 Watt in print mode
19	TTC Covering all the Parameters	Firm to provide certificate From A Central Govt. Lab/an ILAC Accredited Lab/ NABL Approved Lab
20	Preloaded software like print to file	yes
21	Features	Roll and sheet media
22	Warranty	3 years comprehensive onsite warranty

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Kumar Rajesh Choudhary, IPS)
Director General, SSB

Qualitative Requirements of UPS 02 KVA

S No	Item	Qualitative Requirements
1.	02 KVA UPS online	Online UPS with Isolation Transformer suitable for Single Phase. AC Input and Single Phase AC Out Put, Floor Mounted Type.
2.	Power source	AC input and single phase AC output, Floor mounted Type
3.	Warranty (UPS & Battery)	3 Years Comprehensive onsite warranty
* 2 KVA UPS must provide minimum 5 Hrs backup on full load.		

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Sunil Kumar, DC, SSB

S/IT Vignit P, CRPF

Vikas Maurya, DC, CISF

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Sanjay Anandache AC-II, NSG

(B.S. Jaewal)
Dy Inspector General (Prov)

Umesh Chandra Sati, Lt Col, Assam Rifles

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Special Director General, SSB

Remarks of the DG, SSB
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W.R. Choudhary
(Kumar Rajesh Choudhary, IAS)
Director General, SSB

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Qualitative Requirements and Trials Directive of Application Server

S No	Item	Qualitative Requirements	Trial Directive
1.	Server Type	Rack mountable model	Board of officers will physically check specification as per QRs.
2.	Processors	2 Nos. of Intel XEON Platinum 8100 Processor family or higher - each with minimum of 28 cores or more @ 2.5 GHz or higher, 38 MB cache or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor
3.	Main Memory	256GB DDR4 with ECC (8x32GB DDR-4). The memory should be expandable up to 1TB.	Board of officers will physically check specification as per QRs
4.	Storage along with RAID controller	10 TB usable and expandable up to 16 TB with 2.5" hot plug SAS with 10K RPM 12Gbps configured in RAID 6, RAID controller with 2GB cache or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor
5.	I/O Slots	Minimum 3 Nos of PCIe Gen3 slots	Board of officers will physically check specification as per QRs
6.	N/W Interface	2 Nos of 10GbE Ports along with SFP Transceiver + 2 Nos of 1GbE Ports.	Board of officers will physically check specification as per QRs and OEM certificates from vendor
7.	Interface	Minimum 4 USB ports (minimum 2 front side)	
8.	Storage connectivity	1 x 02 ports, 16 Gbps Fibre HBA (Host Bus Adapter)	
9.	Keyboard & mouse	USB 2.0 or higher compatible keyboard and mouse.	
10.	Optical Media	DVD RW-8x or higher	
11.	Graphics	Graphics card should be Server Grade with minimum 2GB memory or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
12.	Operating System	Latest available Windows server Operating System with necessary licenses for two CPU sockets and media kit	Board of officers will physically check specification as per QRs and OEM certificates from vendor (not required for media kit).

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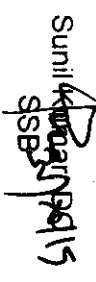
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13	Power Supply	Redundant Indian standard power supply for both CPU sockets :	Board of officers will physically check specification as per QRS.
14	Accessories	Rack mountable kit and Necessary power adapter and cables	Board of officers will physically check.
15	Monitors	1 No of 24" monitors with 1920x1200 resolution support with all interface and power cables	Board of officers will physically check specification as per QRS and OEM certificates from vendor
16	Warranty	5 Years Comprehensive 06 hours CTR (Call to Resolution) onsite warranty	Vendor to provide undertaking in this regard
17	Rack	42U rack for mounting server, Storage with necessary mounting kit, keyboard tray, Fans with Indian standard power sockets accommodating both 5Amps and 15 Amps and power distribution units (2 Nos min)	Vendor to provide undertaking in this regard

* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks.

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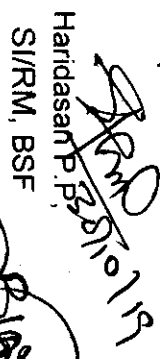
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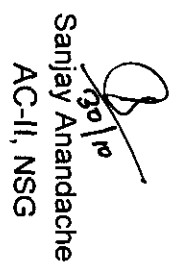
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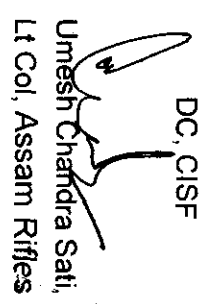
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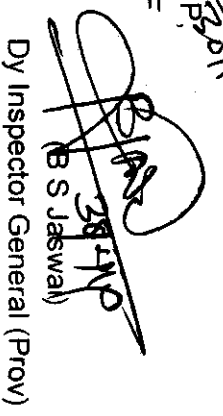
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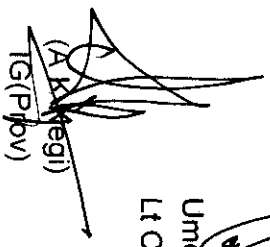
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 Director General, SSB

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Qualitative Requirements and Trial Directives of DATABASE SERVER

S No	Item	Qualitative Requirements	Trial Directives
1.	Server Type	Rack mountable model	Board of officers will physically check specification as per QRS.
2.	Processors	2 Nos. of Intel XEON Platinum 8100 Processor family or higher - each with minimum of 28 cores or more @ 2.5 GHz or higher, 38 MB cache or higher	Board of officers will physically check specification as per QRS and OEM certificates from vendor.
3.	Main Memory	256GB DDR4 with ECC (8x32GB DDR-4). The memory should be expandable up to 1TB.	Board of officers will physically check specification as per QRS.
4.	Storage along with RAID controller	10 TB usable and expandable up to 16 TB with 2.5" hot plug SAS with 10K RPM 12Gbps configured in RAID 6, RAID controller with 2GB cache or higher	Board of officers will physically check specification as per QRS and OEM certificates from vendor
5.	I/O Slots	Minimum 3 Nos. of PCIe Gen3 slots	Board of officers will physically check specification as per QRS.
6.	N/W Interfaces	2 Nos. of 10GbE Ports along with SFP Transceiver + 2 Nos. of 1GbE	
7.	Interfaces	Minimum 4 USB ports (minimum 2 front side)	
8.	Storage connectivity	1 x 02 ports, 16 Gbps Fibre HBA (Host Bus Adapter)	Board of officers will physically check specification as per QRS and OEM certificates from vendor
9.	Keyboard & mouse	USB 2.0 or higher compatible keyboard and mouse	
10.	Optical Media	DVD RW-8x or higher	
11.	Graphics	Graphics card should be Server Grade with minimum 2GB memory or higher	Board of officers will physically check specification as per QRS and OEM certificates from vendor.
12.	Operating System	Latest available Windows server Operating System with necessary licenses for two CPU sockets and media kit	Board of officers will physically check specification as per QRS and OEM certificates from vendor (not required for media kit).

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13.	Power Supply	Redundant Indian standard power supply for both CPU sockets	Board of officers will physically check specification as per QRs.
14.	Accessories	Rack mountable kit and Necessary power adapter and cables	Board of officers will physically check
15	Monitors	1 No of 24" monitors with 1920x1200 resolution support with all interface and power-cables	Board of officers will physically check specification as per QRs and OEM certificates from vendor
16	Warranty	5 Years Comprehensive 06 hours CTR (Call to Resolution) onsite warranty	Vendor to provide undertaking in this regard
All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks			

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(A.K. Sanyal)
IG (Prov)

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Vikas Mohan Varma,
DC, CISF

Qualitative Requirements and Trials Directives of Desktop

S No	Item	Qualitative Requirements	Trials Directives
1.	Form Factor	Desktop	Board of officers will physically check specification as per QRs.
2.	Processor Configuration	Intel Core i7-8 th generation or higher with Intel graphic (3.2GH, or higher, 12MB Cache, 6 Cores or higher) / AMD Ryzen 7.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
3.	Processor make	Intel / AMD	Board of officers will physically check specification as per QRs.
4.	Processor Generation	8 th Generation or above	Board of officers will physically check specification as per QRs.
5.	Chipset	Intel Q370 or higher / AMD B350 or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
6.	Type of Graphic	Discrete	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
7.	Graphic Card	4GB or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
8.	RAM size (GB)	16 GB DDR4 or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
9.	RAM Expandability	64 GB or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
10.	RAM speed	2400 or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
11.	Storage	512GB SSD and 2TB SATA(HDD)	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
12.	Operating system	Windows 10 Professional (64 Bit)	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
13.	Network Connectivity	10/100/1000 on board integrated Gigabit Port)	Board of officers will physically check specification as per QRs.
14.	Wi-Fi connectivity	Yes	Board of officers will physically check specification as per QRs.
15.	Ports	VGA/HDMI/DP, USB Ports - available	Board of officers will physically check specification as per QRs.
16.	DVD	DVD/R WRITER	Board of officers will physically check specification as per QRs.
17.	Keyboard & mouse	USB keyboard & Optical Scroll mouse	Board of officers will physically check specification as per QRs.

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18.	Monitor	27-inch LED monitor, IPS panel (Full HD)	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
19.	Warranty	5 Years Comprehensive onsite warranty	Vendor to provide undertaking in this regard
20.	* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks, TFT, keyboard and Mouse should be from the same OEM.		

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K.R. Choudhary
(Kumar Rajesh Choudhary, IA)
Director General, SSB

Qualitative Requirements and Trials Directives of Laptop

S No	Item	Qualitative Requirements	Trials Directives
1.	Form Factor	Laptop	Board of officers will physically check specification as per QRs.
2.	Processor Configuration	Intel Core i7-8 th generation or higher (1.8 GHz, 4MB, Quad Cores or higher) or AMD Ryzen 7. or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
3.	Processor make	Intel, AMD	Board of officers will physically check specification as per QRs.
4.	Processor Generation	8 th Generation or above.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
5.	Type of Graphic	Discrete	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
6.	Graphic Card	2GB or higher	
7.	RAM size (GB)	8 GB DDR4 or higher	
8.	RAM Expandability	32GB or higher	
9.	RAM speed	2400. MHz or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
10.	Storage	512 GB SSD or higher and 1TB HDD or higher	
11.	Operating system	Windows 10 Professional (64 Bit)	Board of officers will physically check specification as per QRs.
12.	Network Connectivity	Ethernet Gigabit 10/100/1000	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
13.	Wi-Fi connectivity	802.11 a/b/g/n available	
14.	Ports	VGA, HDMI, USB Ports, card reader	Board of officers will physically check specification as per QRs
15.	DVD	External DVD/R WRITER	
16.	Keyboard & mouse	USB keyboard & Optical Scroll mouse	

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17	Display	15.6-inch Full HD display	
18	Display Resolution	1920 x 1080 pixel	Board of officers will physically check specification as per QRS and OEM certificates from vendor
19	Carry Case	Include	Board of officers will physically check specification as per QRS
20	Touch screen	Optional	
21	Warranty	Battery 03 years, system 05 years	Vendor to provide OEM certificate in this regard.
22	Chassis	Mil-810G	Vendor will provide certificate with regard to Mil-810G form national /international accredited Lab

* All Hard disk should be supplied with Diskretention Policy i.e. non-returnable disks.

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Haridasan P.P. SSB

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Umesh Chandra Sati, Lt Col, Assam Rifles

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Special Director General, SSB

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(Kumar Rajesh Chandra, IPS)
Director General, SSB

Qualitative Requirements and Trials Directive of UNIFIED STORAGE

S No	Item	Qualitative Requirements	Trials Directives
1.	Type	Rack Mounted Model	Board of officers will physically check
2.	Capacity	Unified System 300 TB Usable Capacity (60TB on SSD, 90TB SAS and 150 on NL-SAS Drive with 7.2 K RPM. The disk array to be populated with dual ported hot-swappable drives, redundant power supply and fans, hot-swappable disks.	Board of officers will physically check specification as per QRs
3.	Controllers	Storage Should configured with Two redundant hot-swappable active-active RAID controllers configured for RAID 0,1,5, & 6 RAID levels or better. The useable capacity should be configured on RAID 6 or better. For every 30 disk, one spare disks needs to be configured over and above the required capacity.	Board of officers will physically check specification as per QRs and OEM certificates from vendor
4.	Cache	The storage should be provided with minimum 64 GB cache across controller. It should have the ability to protect data on cache. Cache should be mirrored and battery / Super capacitors backed. Cache backup should be at least 72 hours.	Board of officers will physically check specification as per QRs and OEM certificates from vendor
5.	Scalability	Storage should support Minimum of 250 disks (LFF). The Storage System should support for SSD, SAS 2.5" drives, 3.5" NL SAS/SATA drives.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
6.	Cables	Set of fibre optic cables with LC-LC connectors 5 m long (for each active 16 G, ports on the storage and Cat5 cable for 1G ports)	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
7.	Management	Storage management software for configuration and multi - pathing to be supplied (part of the supply).	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
8.	Snapshot Licenses	Storage should be supplied with Snapshot license of the provisioned capacity (part of the supply). Snapshot should be minimum 10% of usable capacity.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
9.	Protocol Support	Storage should support FC, iSCSI, CIFS and NFS protocols	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
10.	Front-End Ports	The array shall be supplied with 4 X 10 Gbps & 4 x 16 Gbps Fibre Channel ports native for (NFS, CIFS)	Board of officers will physically check specification as per QRs and OEM certificates from vendor

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11.	Backend-ports	Storage should be configured with dual SAS-3.0 or higher (4 Lanes x @ 12 Gbits) backend ports	Vendor to provide OEM certificate on this regard.
12.	Operating system Support	All leading operating system platforms and clustering including Windows Server, 2008/2012/2016(enterprise Edition) and Enterprise Linux.	Board of officers will physically check specification as per QRS and OEM certificates from vendor
13.	Disks	Storage should support 1/2/3/4/6TB LFF 7200RPM SATA/NL- SAS drives and 1.2TB/1.8TB SAS Drives and 1.92 TB/3.84/7.68TB SSD Drives.	Board of officers will physically check specification as per QRS and OEM certificates from vendor
14.	Firmware	(i) On line micro code upgrade and disk expansion upgrade without downtime (ii) Configuration in "No Single Point of Failure" for disk drives, power supply.	Board of officers will physically check specification as per QRS and OEM certificates from vendor
15.	Performance	The proposed storage model should support 2,00,000 IOPS	Board of officers will physically check specification as per QRS and OEM certificates from vendor
16.	Management	(i) Easy to use GUI based and web enabled administration interface for configuration, storage management. (ii) Storage management software must be intuitive, browser-based user interface that configures and manages SAN and NAS environment using single GUI (iii) Storage should be provided with System management tools Web GUI, CLI, SNMP, SMI-S,IPV6, Email notification, wake on LAN (iv) Should offer real time performance monitoring tools giving information on CPU utilization, volume throughput, I/O rate and latency. (v) Quota Management	Board of officers will physically check specification as per QRS and OEM certificates from vendor

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17	Warranty	5 Years Comprehensive 06 hours CTR (Call to resolution) onsite warranty	Vendor to provide undertaking in this regard
18	* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks.		

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S/T Vinh P., CRPF

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Dy Inspector General (Prov)

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J. Chawan

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Special Director General, SSB

Remarks of the DG, SSB
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K.R. Wankar

(Kumar Rajesh Chandra, IPS)
Director General, SSB

[Signature]
(K. S. Singh)
IG (Prov)

Qualitative Requirements and Trials Directives of Workstation

S No	Item	Qualitative Requirements	Trials Directives
1.	Form Factor	Workstation	Board of officers will physically check specification as per QRs.
2.	Processor Configuration	Dual Intel Xeon Gold 5118, 2.3 G, 12C/24T, 10.4GTs, 2UPL, 16M Cache, Turbo, HT (105W) DDR4-2400 or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
3.	Number of Processor	2 Intel	Board of officers will physically check specification as per QRs.
4.	Chipset	Intel C612 or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
5.	Type of Graphic Card	Discrete	
6.	RAM size (GB)	4 GB or higher	
7.	RAM Expandability	64 GB DDR4	
8.	Storage	384 GB or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
9.	Operating system	2TB SSD (Hard Disk Drive) 2TB x 2 HDD Windows 10 Professional (64 Bit)	Board of officers will physically check specification as per QRs.
10.	Network Interface	(Dual Gigabit NIC 10/100/1000)	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
11.	Wi-Fi connectivity	802.11 a/b/g/n/ac	
12.	Ports:	VGA/HDMI/DP, USB Ports - available	Board of officers will physically check specification as per QRs.
13.	DVD	DVD/R WRITER	
14.	Keyboard & mouse	USB keyboard & Optical Scroll mouse	

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17	Monitor	27-inch LED monitor, IPS panel (Full HD)	Board of officers will physically check specification as per QRs and OEM certificates from vendor
18	Warranty	3 Years Comprehensive onsite warranty	Vendor to provide undertaking in this regard.
* All Hard disk should be supplied with Disk retention Policy i.e. non-returnable disks, TFT, keyboard and Mouse should be from the same OEM			

Ajay Kumar Sharma
Ajay Kumar Sharma, DC, SSB

Sanjay Kumar
Sanjay Kumar, DC SSB

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Vikas Mahanta
Vikas Mahanta, DC, CISF

Umesh Chandra Sati, Lt Col, Assam Rifles

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Lt Col, Assam Rifles

Remarks of the SDG, SSB Approved / Not-approved

J. Chakravarty

(Jyotirmay Chakravarty, IPS) Special Director General, SSB

Remarks of the Dy SSB
~~Approved / Not-approved~~

U-R-Chandana

(Kumar Rakesh Chandra, IPS) Director General, SSB

Qualitative Requirements & Trial Directives of UPS 10 KVA

S No	Item	Qualitative Requirements	Trial Directives
1.	10 KVA UPS online	10 KVA Online double conversion and signal processor control UPS AC Input 230V frequency 40-60 hz, AC Out Put, Battery bank and their mounting racks should be separate. Connecting cable should be 10 metres or higher.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
2.	Display & alarm unit	Shall display health of UPS. For configuring Servers and administration of whole network.	
3.	Warranty (UPS & Battery)	3 Years Comprehensive onsite warranty	Vendor to provide undertaking in this regard.
		*10 KVA UPS should be three (03) phased and must provide minimum 2 hrs backup on full load.	

Ajay Kumar Sharma, DC, SSB

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 (B.S. Jaswal)
 Dy Inspector General (Prov)

Sumit Kumar, DC, SSB

Sanjay Anandache
 AC-II, NSG

S/T Vjith P., CRPF

Vikas Maurya, DC, CISF
 Umesh Chandra Sati, Lt Col, Assam Rifles

(A. A. Negi) TG (Prov)

Remarks of the SDG, SSB
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 J. Chatterjee
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Remarks of the DG, SSB
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 K. R. Chandra
 (Kumar Rajesh Chandra, IA)
 Director General, SSB

Qualitative Requirements & Trial Directives of A3 Color Duplex Laser Printer

SL No	Item	Qualitative Requirements	Trial Directives
1.	Cartridge Technology	Separate Drum & Toner	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
2.	Print Speed (A4)- Mono	30 PPM or more	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
3.	Print Speed (A4)- Color	30 PPM or more	
4.	Network Capability	Yes	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
5.	Wireless	Yes	
6.	Simplex	Yes	
7.	Duplex	Yes	OEM certificates from vendor.
8.	Resolution	1200x1200 dpi or more	
9.	Paper Size	A4 & A3	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
10.	Paper Tray Capacity	250 Sheets or more	Board of officers will physically check specification as per QRs
11.	Number of Paper Trays	Two trays (A3 & A4 paper) and bypass	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
12.	Memory	2GB or more	
13.	Storage	250GB or more	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
14.	Print Language	UFR - II / PCL / Post Script	OEM certificates from vendor
15.	Connectivity	USB and Ethernet	Board of officers will physically check specification as per QRs and OEM certificates from vendor.

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16. Features	Duplex support	OEM certificates from vendor.
17. Warranty	3 years comprehensive onsite warranty	OEM certificates from vendor.

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W. K. Chandana
 (Kumar Rajesh Chandra, IPS)
 Director General, SSB

Qualitative Requirements & Trial Directives of Network Switch

S No	Item	Qualitative Requirements	Trial Directives
1.	Ports	24 port of 1G base -T AND 4 X 10G SFP + PORTS	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
2.	Switching capacity	64Gbps or higher	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
3.	Management	Web based GUI	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
4.	L2 Features	MAC Address table of 16K entries or more, Static MAC Addresses 1K or more, Spanning Tree Protocol, Port Mirroring, 802.3ad Link Aggregation, Jumbo Frame	Board of officers will physically check specification as per QRs and OEM certificates from vendor.

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Specialist, OP-115

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IG(Prov)

Remarks of the SDG, SSB
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Special Director General, SSB

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(Kumar Rajesh Chandra, IPS)
Director General, SSB

Qualitative Requirements & Trial Directives of LARGE FORMAT PRINTER

S No	Item	Qualitative Requirement	Trial Directives
1	Printing Technology	Inkjet	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
2	Type of Printing	Color	Board of officers will physically check specification as per QRs
3	Size	44 Inch (106.7cm) – A4	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
4	Printing Speed	1A0 per Minute	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
5	Printing Resolution	2400 x 1200 Dpi	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
6	Print Applications	Line Drawings, GIS, Renderings, Presentations, Posters, cloth & banners	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
7	Memory	2GB or more	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
8	Storage	320 GB OR MORE	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
9	Interface	Ethernet 10/100 / 1000	OEM certificates from vendor.
10	USB Port	Yes	Board of officers will physically check specification as per QRs
11	Media Type	Plain Paper, coated paper, tracing paper, glossy paper, matte paper, satin paper, film, adhesive media, cloth	Board of officers will physically check specification as per QRs and OEM certificates from vendor.

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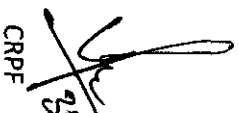
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S.No	Item	Qualitative Requirement	Trial Directives
12	Media Weight Handling Range	Up to 280 GSM	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
13	Ink Color (Minimum)	6 or more	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
14	Roll Handling Capacity	2 No.	Board of officers will physically check specification as per QRs.
15	Size of rolls to be handled	44 inch minimum	Board of officers will physically check specification as per QRs.
16	Manual Cut Sheet Feed	Yes	Board of officers will physically check specification as per QRs.
17	Embedded Post Script	Post script 3 or higher	OEM certificates from vendor.
18	Power Consumption	0.5 Watt (maximum) Sleep Mode, 190 Watt in print mode	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
19	TTC Covering all the Parameters	Firm to provide certificate From A Central Govt. Lab/an ILAC Accredited Lab/ NABL Approved Lab	Board of officers will physically check the certificates.

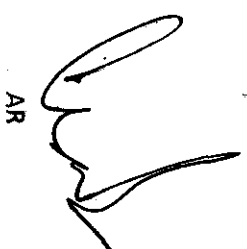

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CRPF 23/11/15



BSF 23/11/15

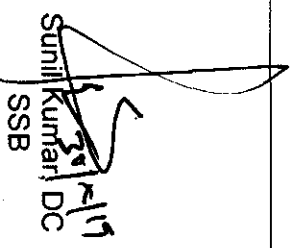

NSG 23/11/15

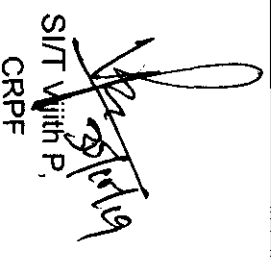

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20	Preloaded software like print to file	yes	Board of officers will physically check
21	Features	Roll and sheet media	Board of officers will physically check
22	Warranty	3 years comprehensive onsite warranty	OEM certificate from vendor. Board of officers will check the certificate.

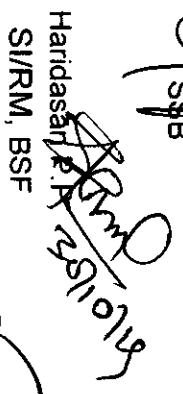
Ajay Kumar SSB

 20/11/19

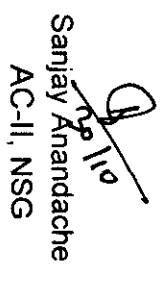
Sunil Kumar DC SSB

 20/11/19

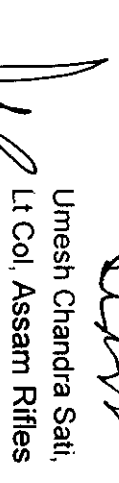
S/T With P, CRPF

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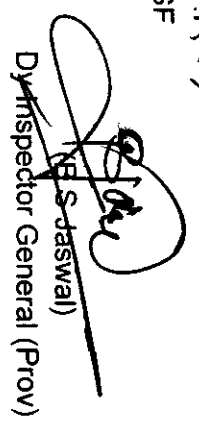
Vikas Maurya DC, CISF

 30/10/19

Haridasan P. R. SSI/RM, BSF

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Sanjay Anandache AC-II, NSG

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 20/11/19

(S. Jaswal)

 Dyntnspector General (Prov)

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 Director General, SSB

Qualitative Requirements & Trial Directives of UPS 02 KVA

S No	Item	Qualitative Requirements	Trial Directives
1.	02 KVA UPS online	Online UPS with Isolation Transformer suitable for Single Phase. AC Input and Single Phase AC Out Put, Floor Mounted Type.	Board of officers will physically check specification as per QRs and OEM certificates from vendor.
2.	Power source	AC input and single phase AC output, Floor mounted Type	
3.	Warranty (UPS & Battery)	3 Years Comprehensive onsite warranty	Vendor to provide undertaking in this regard.
* 2 KVA UPS must provide minimum 5 hrs backup on full load.			

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