No. F5.501(1429)/DoITC HQ/2024/   Date: Digital Sign date

NOTIFICATION

Sub.:   Regarding Minimum Technical Specifications of ICT items.

Ref.:   Order No. P.1 (8) Fin./ GF&AR/ 98 PT.-I dated 09-02-2024, Circular No. P.1 (8) Fin./ GF&AR/ 98 PT.-I dated 12-02-2024 issued by Finance Dept., Govt. of Rajasthan and this office Notification No. F.5 (1194)/ DoIT/ Tech./ 2019 (RajKaj Ref. 6407300) dated 30-03-2024

In reference to the subject and pursuance of referred Order/ Circular cited above and in suppuration of referred Notification all concerned are hereby informed that earlier issued Generic Technical Specification Pt.-1 has been revised including other categories. The updated category-wise Minimum Technical Specification of ICT items are attached at annexure- "A" for consideration as Generic Technical Specifications for IT equipment's procurement.

It is also advised to consider latest Notification published on Dept. of IT&C's website.

This bears approval from competent level.

Encl.: As above.

(**Akhilesh Mittal**)
Technical Director

Copy for information and necessary action to:

1. PS to Addl. Chief Secretary, Finance Dept., Rajasthan, Jaipur
2. PS to Secretary, Dept. of IT&C, Rajasthan, Jaipur
3. PS to Secretary, Secretary, Finance (Exp.) Dept., Rajasthan, Jaipur
4. Sr. PS to Commissioner & Special Secretary, Dept. of IT&C, Rajasthan, Jaipur
5. Joint Secretary, Finance (GF & AR) Dept., Rajasthan, Jaipur
6. Technical Director, Finance Dept., Rajasthan Jaipur to upload this Notification (using link) on Finance Department's website.
7. Group Head-Website, Dept. of IT&C, Jaipur to upload this Notification DoIT&C's website and RISL's website (using link).

(**Akhilesh Mittal**)
Technical Director

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Designation : Technical Director
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Annexure- "A"

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Catogory 1. Desktop Computer
   I. Entry Level configuration
      A. Intel i3(estimated cost Rs. 50,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Intel i3, 4 Core or higher, with minimum 3.0 GHz or higher (Base Frequency), 10 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	256 GB/ 512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Form Factor	SFF/MT
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

   B. Ryzen 3 (estimated cost Rs. 50,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Ryzen 3, 4 Core or higher, with minimum 4 GHz or higher (Base Frequency), 10 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)

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Storage	256 GB/ 512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Form Factor	SFF/MT
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

II. **Medium level configuration**
   A. **Intel i5 (estimated cost Rs. 60,000 considering pre-installed GenuineWindows 11 Profesional, 16 GB RAM and 1 TB Storage)**

Parameter	Minimum Technical Specification
Processor	Intel i5, 6 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 18 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Form Factor	SFF/MT

Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) Hardware/Firmware
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

B. Ryzen 5 (estimated cost Rs. 60,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Ryzen 5, 6 Core or higher, with minimum 3.9 GHz or higher (Base Frequency), 18 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Form Factor	SFF/MT
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

III. Mid-High level configuration
A. Intel i7 (estimated cost Rs. 75,000 considering pre-installed GenuineWindows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Intel i7, 12 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 20 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*)

	2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Form Factor	SFF/MT
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

B. Ryzen 7(estimated cost Rs. 75,000 considering pre-installed GenuineWindows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Ryzen7, 8 Core or higher, with minimum 3.8 GHz or higher (Base Frequency), 20 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Graphics	Integrated HD Graphic card or higher
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone
Display	Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS (for Monitor only)
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and

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	Bluetooth 4.0 or higher
Form Factor	SFF/MT
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Expansion slots	Minimum two PCIe slots
Warranty	3 Years comprehensive on site OEM warranty

Catogory 2. All in one Desktop computer –
    I. Entry level configuration
    A. Intel i3 (**estimated cost Rs. 65,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage**)

Parameter	Minimum Technical Specification
Processor	Intel i3, 4 Core or higher, with minimum 2.7 GHz or higher (Base Frequency), 10 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	256 GB/ 512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

    B. Ryzen 3 (**estimated cost Rs. 65,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage**)

Parameter	Minimum Technical Specification
Processor	4 Core or higher, with minimum 2.7 GHz or higher (Base Frequency), 10 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as*

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	per requirement) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	256 GB/ 512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

II. Medium level configuration
A. Intel i5(estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Intel i5, 6 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 18 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and

Interface	Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

B. Ryzen 5(estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	6 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 18 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

III. Mid-High level configuration
A. Intel i7(estimated cost Rs.90,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	Intel i7, 8 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 20 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Chipset	Compatible Chipset
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (*As*

	per requirement of Dept. for selection of 8 GB or 16 GB)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

B. Ryzen 7(estimated cost Rs.90,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 1 TB Storage)

Parameter	Minimum Technical Specification
Processor	8 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 20 MB Cache or higher with 5000 Series or higher and to be Certified by OEM
Chipset	AMD
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Memory (RAM)	8 GB/ 16 GB DDR4 3200MHz or higher with 32/ 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Storage	512 GB/ 1 TB SSD (*As per requirement of Dept. for selection of 512 GB or 1 TB*)
Audio	Integrated audio controller with internal Speaker
Ports	Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Type-C Port, Audio jack for headphone & microphone
Camera	Integrated webcam 2 MP
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Keyboard & Mouse	USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.0 or higher
Accessories	All necessary cables
Security	2.0 Trusted Platform Module (TPM) (Hardware/Firmware)
Warranty	3 Years comprehensive on-site OEM warranty

Catogory 3. Laptop computer –
  I. Entry level configuration
  A. Intel i3 (estimated cost Rs.50,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 512 GB Hard Drive)

Parameter	Minimum Technical Specification
Processor	Intel i3, Minimum 4 core or higher, 10 MB Cache or higher with 13th or higher Generation and to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	8 GB/ 16 GB DDR4 or higher with 32/ 64 GB Expandability (*As per requirement of Dept. for selection of 8 GB or 16 GB*)
Hard Drive	256 GB/ 512 GB (*As per requirement of Dept. for selection of 256 GB or 512 GB*)
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

  B. Ryzen 3 (estimated cost Rs.50,000 considering pre-installed Genuine Windows 11 Profesional, 16 GB RAM and 512 GB Hard Drive)

Parameter	Minimum Technical Specification
Processor	Minimum 4 core or higher, 10 MB Cache or higher 7330 Series or higher and minimum 2.30 GHz or higher (Base Frequency) to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	8 GB/ 16 GB DDR4 or higher with 32/ 64 GB Expandability (As per requirement of Dept. for selection of 8 GB or 16 GB)
Hard Drive	256 GB/ 512 GB (*As per requirement of Dept. for selection of 256 GB or 512 GB*)

Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

II. **Medium level configuration**
A. **Intel i5**(estimated cost Rs.70,000 considering pre-installed Genuine Windows 11 Profesional)

Parameter	Minimum Technical Specification
Processor	Intel i5, Minimum 4 core or higher, 12 MB Cache or higher 13th or higher Generation and to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version(to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	16 GB DDR4 or higher expandable up to 32 GB
Hard Drive	512 GB SSD or higher
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

B. **Ryzen 5 (estimated cost Rs.70,000 considering pre-installed Genuine Windows 11 Profesional)**

Parameter	Minimum Technical Specification
Processor	Minimum 6 core or higher, 18 MB Cache or higher 7530 Series or higher and minimum 2.00 GHz or higher (Base Frequency) and to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version(to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	16 GB DDR4 or higher expandable up to 32 GB
Hard Drive	512 GB SSD or higher
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

III. **Mid-High level configuration**
   A. **Intel i7(estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Profesional)**

Parameter	Minimum Technical Specification
Processor	Intel i7, Minimum 8 core or higher, 18 MB Cache or higher 13th or higher Generation and to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	16 GB DDR4 or higher expandable up to 32 GB
Hard Drive	1 TB SSD or higher
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet

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Designation. Technical Director
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Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

B. Ryzen 7 (estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Profesional)

Parameter	Minimum Technical Specification
Processor	Minimum 8 core or higher, 20 MB Cache or higher 7730 Series or higher and minimum 2.00 GHz or higher (Base Frequency) and to be Certified by OEM
Operating System	1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. *as per requirement*) 2. Recovery partition (applicable for Windows).
Display	14" or higher diagonal Full HD Display
Memory (RAM)	16 GB DDR4 or higher expandable up to 32 GB
Hard Drive	1 TB SSD or higher
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, HDMI 2.0, Head phone/ Microphone combo/ separate, 1- USB type c
Network card	Integrated 10/100/1000 GB Ethernet
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n or higher
Web Cam	Integrated HD Web Camera (Front facing)
Battery	Minimum 40Whr
Power Adapter	Standard power adapter
Antivirus	Latest Antivirus & Internet Security, with minimum 3 years subscription
Certification	BIS
Compliance	RoHS
Accessories	Carry Bag
Warranty	3 Years comprehensive on site OEM warranty

Catogory 4. Workstation:
A. 13th Generation Intel® Core™ i9 (estimated cost of Rs. 2,00,000)

Parameter	Minimum Tech. Specifications
Processor	36 MB Cache, 14 Cores, 20 threads, up to 5 GHz Turbo or higher
Chipset	Compatible Chipset
Memory	32 GB (32X1) or higher, DDR5 or above (Upgradeable up to 128 GB)
Hard Disk	1 TB SSD or higher

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Signature valid

Digitally signed by Akhilesh Mittal
Designation. Technical Director
Date: 2024.04.18 1 :36:36 IST
Reason: Approved

Drive	
Graphic Card	4GB or higher
I/O Ports	a) Universal audio jack
	b) min. 2 USB 3.2 Gen 1 Type-A (1x power enabled)
	c) min. 2 HDMI 2.0 or higher
	d) min. 1 Thunderbolt 4 USB-C ports with power-in
	e) Smart Card (Optional)
OS Certification	Windows/ RHEL Certified (as per requirement)
Networking	a) Min. 2 Integrated 10/100/1000 GB Ethernet
	b) Bluetooth 5.2 or above & integrated Wi-Fi 802.11 b/g/n or Wi-Fi 6 (802.11ax) or higher
OS	Windows 11/ RHEL (Windows 11 Pro License included) (English) or higher (as per requirement)
Keyboard & Mouse	Standard USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Workstation)
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Warranty	3 Years Onsite Comprehensive Warranty

B. AMD (estimated cost of Rs. 2,00,000)

Parameter	Minimum Tech. Specifications
Processor	36 MB Cache, 12 Cores, 24 threads, up to 3.0 GHz Turbo or higher
Memory	32 GB (32X1) or higher, DDR5 or above (Upgradeable up to 128 GB)
Hard Disk Drive	1 TB SSD or higher
Graphic Card	4GB or higher
I/O Ports	f) Universal audio jack
OS Certification	g) min. 2 USB 3.2 Gen 1 Type-A (1x power enabled)
	min. 2 HDMI 2.0 or higher
	min. 1 Thunderbolt 4 USB-C ports with power-in
	Smart Card (Optional)
	Windows/ RHEL Certified (as per requirement)
Networking	c) Min. 2 Integrated 10/100/1000 GB Ethernet
OS	d) Bluetooth 5.2 or above & integrated Wi-Fi 802.11 b/g/n or Wi-Fi 6 (802.11ax) or higher
	Windows 11/ RHEL (Windows 11 Pro License included) (English) or higher (as per requirement)
Keyboard & Mouse	Standard USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Workstation)
Display	Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display
Warranty	3 Years Onsite Comprehensive Warranty
Memory	32 GB (32X1) or higher, DDR5, 4800 MHz (Upgradeable up to 64 GB)

Catogory 5. Thin Client (estimated cost Rs. 25,000/-)

Parameter	Minimum Technical Specification
Processor	Intel/AMD Quad Core Processor, minimum 2.0 GHz with 4 MB of Higher Cache (Intel/AMD dual core Processor, minimum 1.5 GHz with 4 MB or Higher
Mother Board	Compatible Chipset

Graphic	HD Graphic
Memory (RAM)	4 GB DDR4 RAM, 2400 MHz or Higher upgradable 16 GB
Storage	256 GB SSD or Higher
Display	21.5 inch (or higher) HD Color Monitor with1920 * 1080 or Higher resolution
Keyboard-Mouse	USB Keyboard (104 Keys) & Optical Scroll Mouse with mouse pad
Accessories	All necessary cables (power and data cables), Vesa kit for wall mounting, Carbon Steel/ Kingston lock, Branded Compatible Headphone (Two sets)
I/O Port	4 USB (Min 2x3.0) ports, HDMI, Universal Audio Port/ Mic in-Speaker Out Port with extension to support two headphone
Network and connectivity	1 G LAN Ethernet, Integrated 5 G Dual band Wi-Fi
Features	Capable to work on RDP protocol as independent system
Operating System	Preloaded latest linux version with connection broker Citrix or VMware
Preloaded software	(1) Open office latest version (2) Adobe Acrobat Reader
Certification	BIS
Compliance	ROHS
Warranty	3 years comprehensive on-site warranty

Catogory 6. Printer –
    I. Entry Level Configuration
        A. Laser – 18 PPM (estimated cost Rs.10,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4 or higher
Print Speed (Minimum)	18 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Manual Duplex
Connectivity	Hi-Speed USB 2.0 port
Duty Cycle (Monthly)	5000 pages or higher
Memory	16 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

        B. InkTank – 18 PPM (estimated cost Rs. 10,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4 or higher
Print Speed (Minimum)	18 PPM (Mono) or higher

Print Resolution	600 x 600 dpi or higher
Duplex	Manual Duplex
Connectivity	Hi-Speed USB 2.0 port
Duty Cycle (Monthly)	5000 pages or higher
Memory	16 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

C. Laser – 20 PPM (estimated cost Rs.15,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4 or higher
Print Speed (Minimum)	20 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Memory	32 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

D. InkTank – 20 PPM (estimated cost Rs. 15,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4 or higher
Print Speed (Minimum)	20 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Memory	32 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS

RajKaj Ref 6676090

Signature valid

Digitally signed by Akhilesh Mittal
Designation: Technical Director
Date: 2024.04.18 17:36:36 IST
Reason: Approved

Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

E. Laser – 20 PPM with Wi-Fi & Ethernet (estimated cost Rs. 20,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4 or higher
Print Speed (Minimum)	20 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port, Wi-Fi, Ethernet
Duty Cycle (Monthly)	8000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

F. InkTank – 20 PPM with Wi-Fi & Ethernet (estimated cost Rs.20,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4 or higher
Print Speed (Minimum)	20 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port, Wi-Fi, Ethernet
Duty Cycle (Monthly)	8000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	100 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

II. Medium Level Configuration
A. Laser – 25 PPM (estimated cost Rs.20,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4, Legal or higher
Print Speed (Minimum)	25 PPM (Mono) or higher

Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher
Duty Cycle (Monthly)	10000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

B. InkTank – 25 PPM (estimated cost Rs.20,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4, Legal or higher
Print Speed (Minimum)	25 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher
Duty Cycle (Monthly)	10000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

C. Laser – 25 PPM with Wi-Fi & Ethernet (estimated cost Rs.25,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4, Legal or higher
Print Speed (Minimum)	25 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher, Wi-Fi, Ethernet
Duty Cycle (Monthly)	10000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS

Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

D. InkTank – 25 PPM (estimated cost Rs.25,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4, Legal or higher
Print Speed (Minimum)	25 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher, Wi-Fi, Ethernet
Duty Cycle (Monthly)	10000 pages or higher
Memory	128 MB or higher
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

III. Mid-High Level Configuration
A. Laser – 30 PPM (estimated cost Rs. 30,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	Laser
Paper size	A4, Legal or higher
Print Speed (Minimum)	30 PPM (Mono) or higher
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher, Wi-Fi, Ethernet
Duty Cycle (Monthly)	10000 pages or higher
Memory	256 MB or higher
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

B. InkTank – 30 PPM (estimated cost Rs.30,000)

Parameter	Minimum Technical Specification
Functions	Print
Printing technology	InkTank
Paper size	A4, Legal or higher
Print Speed (Minimum)	30 PPM (Mono) or higher

Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Connectivity	Hi-Speed USB 2.0 port or higher, Wi-Fi, Ethernet
Duty Cycle (Monthly)	10000 pages or higher
Memory	256 MB or higher
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 Years comprehensive on site OEM warranty

IV. Colour Printer
A. InkTank – 20 PPM (estimated cost Rs. 20,000)

Parameter	Minimum Technical Specification
Printing Technology	Ink Tank
Printing Function	Print
Type of Printing	Colour
Duplex	Auto
Paper Size	A4, Legal
Print Speed (A4)Mono	20 PPM or higher
Print Speed (A4) color	20 PPM or higher
Print Resolution	600x600 Dpi or higher
Memory	256 MB or higher
Network Connectivity	USB, Ethernet, Wi-Fi
Ink Bottles	Black &Color Ink bottle per install
Paper Tray Capacity (A4)	150 pages or higher
Duty Cycle(Monthly)	8000 pages or higher
Software media	Driver & Utility Software
Compatible Operating System	Windows, Linux, Mac OS.
Accessories	All necessary cables (Power & Communication)
Certification	BIS
Compliance	ROHS
Warranty	3 Years comprehensive on site OEM warranty

B. Laser – 20 PPM (estimated cost Rs. 30,000)

Parameter	Minimum Technical Specification
Printing Technology	Laser
Printing Function	Print
Type of Printing	Colour
Duplex	Auto
Paper Size	A4, Legal
Print Speed (A4)Mono	20 PPM or higher
Print Speed (A4) color	20 PPM or higher
Print Resolution	600x600 Dpi or higher
Memory	256 MB or higher

Network Connectivity	USB, Ethernet, Wi-Fi
Cartridges	Black &Color Cartridges per install
Paper Tray Capacity (A4)	150 pages or higher
Duty Cycle(Monthly)	8000 pages or higher
Software media	Driver & Utility Software
Compatible Operating System	Windows, Linux, Mac OS.
Accessories	All necessary cables (Power & Communication)
Certification	BIS
Compliance	ROHS
Warranty	3 Years comprehensive on site OEM warranty

V. Dot Matrix Printer (DMP) (estimated cost Rs. 18,000)

Parameter	Minimum Technical Specifications
Pin	9 Pin
Columns	80 Column
High Speed Draft	500 CP Sat High Speed, Draft, 12 CPI or higher
Draft	300 CP Sat Draft, 10 CPI
Copies	1+4
Interface	Parallel and USB (Both USB and parallel cables along with accessories to be provided)
Input Buffer	100 KB or higher
Drivers	Windows/ Linux through website
Print Head Life	Min. 200 million character or better
MTBF (hrs. at 25% of duty cycle)	20000 POH or higher
Ribbon (Million Characters)	Min.7.5 or higher
MTBF (POH) @ 25% duty cycle)	Min.15,000
Accessories	All Accessories cables (Power and Data Cable) to be included
Warranty	3 years comprehensive on-site OEM warranty

VI. Barcode Printer(estimated cost Rs. 12,000)

Parameter	Minimum Technical Specification
Printing Technology	Thermal Transfer
Print Speed	2 IPS or higher
Print Width	100mm (4.09") or higher
Print Length	991mm (39.33") or higher
Ribbon Length	Minimum 300 Mtr.
Ribbon	Automatic Ribbon Control & Positioning System
Label Sensor Type	Fully Adjustable Sensor with Label gap, card notch & reflective black mark
Label Roll Capacity	Internal- 125 mm OD External-200 mm OD
Memory	Flash -2MB, DRAM-6 MB
Interface	RS-232/ Centronics Parallel Port, USB
Bar Code	1D Barcodes: Min.12standard barcodes 22D Barcodes: Min. PDF-417, Maxi code, Data matrix
Media Type	Roll-fed, Fan fold, Continuous, Die cut, black mark, ticket, tag
Media Width	1" to 4.1"

Cables & Interfaces	All necessary cables & interfaces for connectivity to Mains & Computer.
Others	Should come with drivers for Windows
Integration	Easy integration with HIS application
Accessories	All Accessories cables (Power and Data Cable) to be included
Warranty	3 years comprehensive on-site OEM warranty

Catogory 7. Multifuncational Printer–
  I. Entry Level Configuration
    A. Laser – 20 PPM (estimated cost Rs.15,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	Laser
Print Speed (Minimum)	20 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Manual
Memory	64 MB or higher
Display	Yes
Connectivity	USB/ Ethernet, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

    B. InkTank – 20 PPM (estimated cost Rs.15,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	InkTank
Print Speed (Minimum)	20 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Manual
Memory	64 MB or higher
Display	Yes
Connectivity	USB/ Ethernet, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher

Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

II.   Medium Level Configuration
A.   Laser – 25 PPM (estimated cost Rs.25,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	Laser
Print Speed (Minimum)	25 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	64 MB or higher
Display	Yes
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	8000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

B.   InkTank – 25 PPM (estimated cost Rs. 25,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	InkTank
Print Speed (Minimum)	25 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	64 MB or higher
Display	Yes
Connectivity	USB, Ethernet, Wi-Fi

Duty Cycle (Monthly)	8000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	150 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

C. Laser – 30 PPM (estimated cost Rs.30,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	Laser
Print Speed (Minimum)	30 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	128 MB or higher
Display	Yes
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	10000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

D. InkTank – 30 PPM (estimated cost Rs.30,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	InkTank
Print Speed (Minimum)	30 PPM (Mono) or higher
Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	128 MB or higher

Display	Yes
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	10000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

III. Mid-High Level Configuration
A. Laser – 35 PPM (estimated cost Rs.40,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	Laser
Print Speed (Minimum)	35 PPM (Mono) or higher
Paper Size	A4, Legal or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	256 MB or higher
Display	Yes
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	20000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

B. InkTank – 35 PPM (estimated cost Rs.40,000)

Parameter	Minimum Technical Specification
Functions	Print, Scan, Copy
Printing Technology	InkTank
Print Speed (Minimum)	35 PPM (Mono) or higher

Paper Size	A4 or above
Print Resolution	600 x 600 dpi or higher
Duplex	Auto
Memory	256 MB or higher
Display	Yes
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	20000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG etc.
Scan Resolution	600 x 600 dpi or higher
Scan Type	FLATBED with ADF
Input paper tray capacity	200 pages or higher
Compatible OS	Windows and Linux
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software
Certifications	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

Catogory 8. Scanner –
I.   **Flatbed Scanner (A4) (estimated cost Rs. 10,000)**

Parameter	Minimum Technical Specification
Type	Flatbed
Print Resolution	600 x 600 dpi
Light source	RGB LED
Paper size support	A4
Interface	USB
Certification	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

II.   **Flatbed with ADF Scanner (A4) (estimated cost Rs. 25,000)**

Parameter	Minimum Technical Specification
Type	Flatbed with ADF
Speed (minimum)	25 PPM or higher
Print Resolution	600 x 600 dpi
Light source	RGB LED
Paper size support	A4, Letter, Legal, Envelop
Duplex paper support	A4 or higher
Interface	USB
Daily Duty cycle (minimum)	1000 scan/ day
ADF feeder capacity (minimum)	50 sheets or higher
Certification	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

III.   Sheet Feed Scanner (A4/ Legal) (estimated cost Rs. 30,000)

Parameters	Minimum Technical Specifications
Scanner Type	Sheet Feed Scanner
ADF Capacity	Min. 50 Sheets or higher
Scanning	Simplex, Single Pass Duplex
Paper Size Support	A4, Legal, Letter
Optical resolutions	600 x 600 dpi (Color and Mono Sheet Feed)
Daily Duty Cycle	Approx. 3000 scans per day or higher
Scan Speed	25 PPM or higher
Interface	USB 2.0 or higher
Scan Format	PDF, JPEG/ PNG
Light Source	LED
Accessories	USB Cable, AC adaptor, Power Cable, Setup guide document, Installation software
Certification	BIS
Compliance	RoHS
Warranty	3 years comprehensive on-site OEM warranty

IV.   Flatbed Scanner (A3 Size) (estimated cost Rs. 70,000)

Parameter	Minimum Technical Specifications
Paper size Support	A3, A4, Legal
Scanning Resolution	minimum 600*600 dpi or higher
Interface	USB 2.0
Sensor	Contact Image Sensor (CIS)/ Charge Coupled Device (CCD)
Scan Format	PDF, PDF/ A
Light Source	LED
Operating System Support	Windows/ Linux
Bundled Software Solutions	Industry standard interfaces for connecting software e.g. Windows ISIS/ TWAIN and Mac TWAIN drivers
Accessories	USB Cable , AC adaptor , Power Cable, Setup guide document, Installation software
Certification	BIS
Compliance	ROHS
Warranty	3 years comprehensive on-site OEM warranty

V.   Barcode Scanner (estimated cost Rs. 6,000)

Parameter	Minimum Technical Specification
Compatible Devices	Laptops and PC
Connectivity Technology	USB
Scan Speed	100 scan/ Sec. or higher
Light source	LED/Infrared light/Visible light/laser
Scanner Type	Portable
Certifications	BIS, RoHS, ISO 9001 for OEM
Test report	OEM should submit test report for the quoted model issued by State/ Central laboratory/ NABL accredited labs (not old from last 5 Years)

Warranty	3 years comprehensive on-site OEM warranty

Catogory 9. Tablet

I. Tablet (10 inch-3GB – 32GB) (estimated cost Rs. 12,000)

Parameter	Minimum Technical Specifications
Display Size (Min.) (Inch)	10 Inch or higher
Display Resolution (Pixels)	1920*1200 or higher
Display Type	IPS/ TFT LCD or equivalent
Brightness (Nits)	350 or higher
Operating System	Android 11.0 or Higher
Connectivity Type	Wi-Fi
Wi-Fi Connectivity Type	802.11 a/b/g/n or higher
Bluetooth Connectivity	5.0 or higher
Processor	Octa Core 2.0 GHz or Higher (Cellular data Support-4G/LTE)
RAM Size and type	3 GB LPDDR3 or higher
Internal Storage	32 GB or higher
Location Technology	GPS/ A.GPS
Storage upgradable up to (Through Micro SD Card)	256 GB or higher
Rear Camera	8 MP or higher
Front Camera	5 MP or higher
Battery Capacity (Min.)	7000 mAh or higher
Certification	BIS
Compliance	ROHS
Additional Accessories	USB Cable & Charger
Tablet Cover	Compatible Smart cover for TAB, cover should have stand to hold the TAB
Warranty	3 years comprehensive OEM warranty including battery
Declaration on Land Border Clause	Declaration from OEM and Bidder

II. Tablet (10.1 inch-6 GB – 128 GB) (estimated cost Rs. 20,000)

Parameter	Minimum Specification
Type	Touch Screen
Operating System	Android 11.0 or higher
Display Size	10.1 inch or higher
RAM Size	6 GB or higher
Internal Storage	128 GB or higher
Connectivity	Wi-Fi 802.11 a/b/g/n/ac 2.4G&5GHz, Cellular, Bluetooth Ver. 5.0 or higher
Cellular Data Support	4G/ LTE or higher
Processor	Octa Core with 2.0 GHz or better (Mediatek/ Exynos/ Qualcomm Snapdragon)
Storage upgradable up to	256 GB or higher
Display Resolution	1920x1200 or better (Pixels)
Rear Camera(MP)	8 MP or more

Front Camera(MP)	5 MP or more
Battery Capacity	7000 mAH or higher
Location Technology	GPS & A-GPS
Weight	550gm or less
Certification	BIS
Compliance	ROHS
Warranty	3 years comprehensive OEM warranty including battery
Accessories	USB cable and charger

Catogory 10. UPS –

I. 1KVA (estimated cost Rs. 7,500)

Parameter	Minimum Technical Specifications
UPS Capacity	1 KVA
Mode	Line interactive
Protection	Full Protection
voltage	230V +-10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable of 3 pin Indian plug and output have minimum 3 or more Nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault Over Load, Low Battery
Certifications	BIS
Compliance	ROHS (Only UPS)
Test report	OEM should submit test report for the quoted model issued by State/ Central laboratory/ NABL accredited labs (not old from last 5 Years)
Warranty	3 Years comprehensive on site OEM warranty

II. 2 KVA (estimated cost of Rs. 10,000)

Parameter	Minimum Technical Specifications
UPS Capacity	2 KVA
Mode	Line interactive
Protection	Full Protection
voltage	230V +-10%
Range	160V - 280V
Power factor	0.7 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault Over Load, Low Battery
Certifications	BIS
Compliance	ROHS (Only UPS)
Test report	OEM should submit test report for the quoted model issued by State/ Central laboratory/ NABL accredited labs (not old from last 5 Years)

Warranty	3 Years comprehensive on site OEM warranty

III. UPS 3KVA(estimated cost Rs. 75,000)

Parameter	Minimum Technical Specification
Rated Capacity	3 KVA / 2700 Watts
Mode	Line Interactive
Input Voltage Range (Load <50%)	118 ~ 295 V (± 5 V)
Input Voltage Range (Load >50%)	160 ~ 295 V (± 5 V)
Frequency	40 ~ 70 Hz
Phase	Single Phase with Ground
Power Factor	≥ 0.9 @ full load
Output Volatge Range	208 / 220 / 230 / 240 V AC
Frequency Range (Synchronized Range)	47 ~ 53 Hz or 57 ~ 63 Hz
Frequency Range (Battery Mode)	50 Hz ± 0.1 Hz or 60Hz ± 0.1 Hz
Thd (Linear Load)	≤2%
Thd (Non-Linear Load)	≤4%
Overload	>110%, 30s turn to Bypass Mode
	>150% instant turn to Bypass
Crest Factor	3:1 (Max)
Short Circuit Protection	5 cycles turn Off Inverter, no transfer to Bypass, provide Alarm (AC Mode), 5 cycles turn Off Inverter, provide Alarm (Battery Mode), Input Fuse blown or Breaker action
Waveform	Pure Sinewave
TRANSFER TIME	ZERO
(AC Mode To Battery Mode)	<4 ms
(Inverter To Bypass)	
Efficiency	85%~ 92%
Battery	72 V (7 AH* 6 Nos. Battery inside)
RS232, SNMP (Optional)	RS232, SNMP (Optional)
Certifications	BIS
Compliance	ROHS (Only UPS)
Test report	OEM should submit test report for the quoted model issued by State/ Central laboratory (not old from last 5 Years),
Warranty	3 years comprehensive on-site OEM warranty

IV. UPS 5KVA (estimated cost Rs. 1,45,000)

Item	Minimum Technical Specifications
UPS Capacity	5 KVA
Mode	Line interactive
DC Voltage	Default 192 V+, Adjustable to 216 V & 240 V
Type	Single phase, IGBT based, true Online UPS
Input	Single phase-three wires, the bidder has to supply equipment as per power supply available
Output	Single phase-three wires
Output Waveform	Sinusoidal

Power Factor	≥ .8
Voltage Regulation	≤ ±2%
Inverter Efficiency	≥ 90% (Output PF)
Overload Capability	110% for ≥10 Minutes
Total Harmonic distortion (THDI)	<5% at Full load
Transient response	Less than ±10% voltage variation at sudden application/removal of full load and it shall recover within 500msec.
Environment	Approx.:0-50°C & 95% RH
Charger	Charging mode shall be provided Battery Charging Voltage & Current shall be adjustable Line & load Regulation: ≤ ±2% Output Ripple: ≤ 3%
Battery	Battery shall be of Sealed Maintenance (SMF) or VRLA type with minimum 1 Hrs. Battery Backup at full load ISO 9001 & 14001, 45001 certified OEM with Rack/ Tray Preferred Makes – Exide, Amron, Okaya, Luminous, Microtek
Other Requirement	Both Manual & Static bypass switch should be Provided. Build in display for displaying all requisite UPS & battery parameters for both input & output
Certifications	BIS
Compliance	ROHS (Only UPS)
Test report	OEM should submit test report for the quoted model issued by State/ Central laboratory (not old from last 5 Years),
Warranty	3 years comprehensive on-site OEM warranty

Catogory 11. IFPD –
   1) Interactive Flat Panel 86": (estimated cost Rs. 2,75,000)

Parameter	Minimum Technical Specification
Size (Diagonal)	86" or higher
Panel Technology	IPS/ VA
Resolution (Minimum)	4 K (3840 x 2160)
Brightness	400 nits or better
Contrast Ration (Typical)	1100:01 or better
Viewing Angle (H x V)	178*178
Response Time	8 ms or less
RAM	4 GB or higher
On-board Memory	32 GB or higher
Input (Minimum)	3 x HDMI, 4 x USB (Out of which min 2xUSB3.0), 1 x Audio, 1 x OPS slot, 1 x USB Type- C Port
Output (Minimum)	1 x HDMI, 1 x Audio
Panel Life (Minimum)	30000 Hours or higher
Wi-Fi Supports	Wi-Fi (802.11 a/b/g/n/ac) Support
External Control	RS232C (1), RJ45 (1)
Speaker	Built-in Speaker (15 W+ 15 W) or higher
Platform	Android 11.0 or higher
Detection Method	IR/IPV
Pen (Stylus)	2 nos. with dual pen support and Magnetic Fixtures
Operating System Support	Windows / Linux / Android

Parameter	Minimum Technical Specification
Multi Touch Point	Minimum 20 Points with +/- 2.0 mm or better
Surface Hardness	Minimum 4 MM Toughened Glass with level 7 MOHS Standard or higher surface hardness (configuration)
Features	Smart Writing of different colors & annotation
Panel Features	Interactive flat panel with Light Sensor, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC
Certifications	BIS
Compliance	ROHS
User Convenience Features	Multi-Screen with PBP/PIP, min 2 split view, etc.
Accessory	Power Cable (IS), HDMI Cable, User Manual, Wall Mount Kit as per requirement
Warranty	3 years comprehensive on site OEM warranty

2) Interactive Flat Panel 75": (estimated cost Rs. 2,50,000)

Parameter	Minimum Technical Specification
Size (Diagonal)	75" or higher
Panel Technology	IPS/ VA
Resolution (Minimum)	4 K (3840 x 2160)
Brightness	400 nits or better
Contrast Ration (Typical)	1100:01 or better
Viewing Angle (H x V)	178*178
Response Time	8 ms or less
RAM	4 GB or higher
On-board Memory	32 GB or higher
Input (Minimum)	3 x HDMI, 4 x USB (Out of which min 2xUSB3.0), 1 x Audio, 1 x OPS slot, 1 x USB Type- C Port
Output (Minimum)	1 x HDMI, 1 x Audio
Panel Life (Minimum)	30000 Hours or higher
Wi-Fi Supports	Wi-Fi (802.11 a/b/g/n/ac) Support
External Control	RS232C (1), RJ45 (1)
Speaker	Built-in Speaker (15 W+ 15 W) or higher
Platform	Android 11.0 or higher
Detection Method	IR/ IPV
Pen (Stylus)	2 nos. with dual pen support and Magnetic Fixtures
Operating System Support	Windows / Linux / Android
Multi Touch Point	Minimum 20 Points with +/- 2.0 mm or better
Surface Hardness	Minimum 4 MM Toughened Glass with level 7 MOHS Standard or higher surface hardness (configuration)
Features	Smart Writing of different colours & annotation
Panel Features	Interactive flat panel with Light Sensor, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC
Certifications	BIS
Compliance	ROHS
User Convenience Features	Multi-Screen with PBP/PIP, min 2 split view, etc.
Accessory	Power Cable (IS), HDMI Cable, User Manual, Wall Mount Kit with 8 no. Fasteners

Warranty	3 years comprehensive on site OEM warranty

3) Interactive Flat Panel 65": (estimated cost Rs. 2,00,000)

Parameter	Minimum Technical Specification
Size (Diagonal)	65" or higher
Panel Technology	IPS/ VA
Resolution (Minimum)	4 K (3840 x 2160)
Brightness	400 nits or better
Contrast Ration (Typical)	1100:01 or better
Viewing Angle (H x V)	178*178
Response Time	8 ms or less
RAM	4 GB or higher
On-board Memory	32 GB or higher
Input (Minimum)	3 x HDMI, 4 x USB (Out of which min 2xUSB3.0), 1 x Audio, 1 x OPS slot, 1 x USB Type- C Port
Output (Minimum)	1 x HDMI, 1 x Audio
Panel Life (Minimum)	30000 Hours or higher
Wi-Fi Supports	Wi-Fi (802.11 a/b/g/n/ac) Support
External Control	RS232C (1), RJ45 (1)
Speaker	Built-in Speaker (15 W+ 15 W) or higher
Platform	Android 11.0 or higher
Detection Method	IR/ IPV
Pen (Stylus)	2 nos. with dual pen support and Magnetic Fixtures
Operating System Support	Windows / Linux / Android
Multi Touch Point	Minimum 20 Points with +/- 2.0 mm or better
Surface Hardness	Minimum 4 MM Toughened Glass with level 7 MOHS Standard or higher surface hardness (configuration)
Features	Smart Writing of different colours & annotation
Panel Features	Interactive flat panel with Light Sensor, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC
Certifications	BIS
Compliance	ROHS
User Convenience Features	Multi-Screen with PBP/PIP, min 2 split view, etc.
Accessory	Power Cable (IS), HDMI Cable, User Manual, Wall Mount Kit with 8 no. Fasteners
Warranty	3 years comprehensive on site OEM warranty

Catogory 12. TV
1) LED 32": (estimated cost Rs. 20,000)

Parameter	Minimum Technical Specification
Size	32" Direct LED
Panel Technology	IPS
Resolution	3840*2160 (4KUHD)
Brightness	400 Nits or higher
Contrast Ratio (Native)	1100:1 or better
Viewing Angle (H/V)	178°
Response Time	10 ms or better

Display Colors	16.7 million
Color Gamut	72%
Audio	Built in Speaker (10W + 10W)
Input	HDMI 2.0 x 3, USB 2.0x1, Stereo Mini Jack
Output	Digital out Audio/ Video
Duty Cycle	16/7 Hrs.
Haze	2%
Rating	IP5X
Special Features	UHD Signage with Built-in Software, Smart Share, Web browser, Auto Source Switching/Recovery, Button lock, Plug Play, HDR Pro/10/Plus
External Control	RS232C(in) thru stereo jack, RJ45
Mounting	Wall Mount, all required accessories has to be supply for installation
Certificates	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

2) LED 48": (estimated cost Rs. 40,000)

Parameter	Minimum Technical Specification
Size	48" Direct LED
Panel Technology	IPS
Resolution	3840*2160 (4KUHD)
Brightness	400 Nits or higher
Contrast Ratio (Native)	1100:1 or better
Viewing Angle (H/V)	178°
Response Time	10 ms or better
Display Colors	16.7 million
Color Gamut	72%
Audio	Built in Speaker (10W + 10W)
Input	HDMI 2.0 x 3, USB 2.0x1, Stereo Mini Jack
Output	Digital out Audio/ Video
Duty Cycle	16/7 Hrs.
Haze	2%
Rating	IP5X
Special Features	UHD Signage with Built-in Software, Smart Share, Web browser, Auto Source Switching/Recovery, Button lock, Plug Play, HDR Pro/10/Plus
External Control	RS232C(in) thru stereo jack, RJ45
Mounting	Wall Mount, all required accessories has to be supply for installation
Certificates	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

3) LED 55": (estimated cost Rs. 45,000)

Parameter	Minimum Technical Specification
Size	55" Direct LED
Panel Technology	IPS

Resolution	3840*2160 (4KUHD)
Brightness	400 Nits or higher
Contrast Ratio (Native)	1100:1 or better
Viewing Angle (H/V)	178°
Response Time	10 ms or better
Display Colors	16.7 million
Color Gamut	72%
Audio	Built in Speaker (10W + 10W)
Input	HDMI 2.0 x 3, USB 2.0x1, Stereo Mini Jack
Output	Digital out Audio/ Video
Duty Cycle	16/7 Hrs.
Haze	2%
Rating	IP5X
Special Features	UHD Signage with Built-in Software, Smart Share, Web browser, Auto Source Switching/Recovery, Button lock, Plug Play, HDR Pro/10/Plus
External Control	RS232C(in) thru stereo jack, RJ45
Mounting	Wall Mount, all required accessories has to be supply for installation
Certificates	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

4) LED 65": (estimated cost Rs. 75,000)

Parameter	Minimum Technical Specification
Size	65" Direct LED
Panel Technology	IPS
Resolution	3840*2160 (4KUHD)
Brightness	400 Nits or higher
Contrast Ratio (Native)	1100:1 or better
Viewing Angle (H/V)	178°
Response Time	10 ms or better
Display Colors	16.7 million
Color Gamut	72%
Audio	Built in Speaker (10W + 10W)
Input	HDMI 2.0 x 3, USB 2.0x1, Stereo Mini Jack
Output	Digital out Audio/ Video
Duty Cycle	16/7 Hrs.
Haze	2%
Rating	IP5X
Special Features	UHD Signage with Built-in Software, Smart Share, Web browser, Auto Source Switching/Recovery, Button lock, Plug Play, HDR Pro/10/Plus
External Control	RS232C(in) thru stereo jack, RJ45
Mounting	Wall Mount, all required accessories has to be supply for installation
Certificates	BIS
Compliance	ROHS
Warranty	3 years comprehensive on site OEM warranty

Catogory 13. Web Camera

Parameter	Minimum Technical Specification
Device Type	Plug & Play Web Camera
Connectivity Technology	Wired
Resolution	Minimum optical 2 MP and Shall support 1080 video capture at 30 fps
Video	HD 720 P/30 FPS
Image Sensor	CMOS
Features	Clear and richer picture with 5G/>=60 degree wide angle Lens, brightness controller, digital zoom
OS Support	Windows, Mac and Linux
Video Input	Color
Audio	Built-in mics with auto noise reduction
Interfaces	USB 2.0 and Above Connector
Cable Details	USB Cable min 1 Meter
Certification	RoHS Compliance, BIS
Warranty	3 years comprehensive on-site warranty.

Catogory 14. Digital Podium: (estimated cost of Rs. 2,50,000 considering highest configuration)

Parameter	Minimum Technical Specification
Display	24: Interactive Panel (23.8" active diagonal size)/ 21"/ 19" (As per requirement), Resolution 1920 X 1080, 10 Points Multi-touches Free stylus with eraser switch, Video I/O port, four shortcut keys, 11 - 73-degree adjustable tilt stand, Encryption AES256 / RSA2048 with Accessories (supplied with Windscreen and Anti-Shock Mount)
Integrated Controller	Touch panel control • Min 1 VGA Input, Min 1 VGA Output • Min 2 Screen Control Port • Min 2 RS 232 Port IR receiver for IR Control
	Squelch Control and frequency from 100 Hz to 15000 Hz (impedance less than 280 ohms)
Mobility	4 Wheels or more as required
Rack Storage	19U or more (to keep tablet/writing panel, CPU, video mixer, DSP, Amplifier, switch &WiFi modem)
Extra Ports on the podium	Power outlet, USB, LAN, Audio In, HDMI
Security	Locking front and sliding cover doors
Keyboard	Pull out the shelf for the keyboard
Controller	• Movement of Screens, Projector, LCD Display, and Volume adjustment shall be controlled through the controller • Video Output can be switched from Podium Desktop and

	Writing panel through controller
	• Video Output can be switched from current location to remote location from the desktop/ laptop/ controller
	• Video Output of tablet/ camera of the class can be viewed at the remote site
	• Synchronization of student interaction mic with mixers/ DSP for every participating class
	• Synchronization of different speakers / mic, video equipment and amplifiers in all the classes
	• Fixed inside the podium/dias resolution : 800X480

Catogory 15. Camera

1) PTZ Camera 18X: (estimated cost of Rs. 1,25,000)

Parameter	Minimum Technical Specification
Standard	OVNIF Profile S Compliant
White Balance	The camera should have an Option of Auto or Manual White Balance.
Gain Control	The camera should have an auto Gain Control
Picture controls	The camera should have picture control for brightness, color, saturation, contrast, sharpness, and gamma
S/N ratio	The camera should have a S/N Ratio of >50db.
Focus	The camera Lens should have an Auto Focus.
Sensor	The camera should have 1/2.8" HD CMOS
Optical Zoom	The camera should have a 18 X or more Optical Zoom.
Video Output	The camera should have a standard video output though HDMI/ USB/ IP (as per requirement)
Signal Support	The camera should support signals: 1080P@30, 1080P@25, 1080i@60, 1080i@50, 720P@60,720P@50, 720P@30, 720P@25
Pre-sets	The camera should have Up to 16 Position Pre-sets and Min. 10 accessible from IR remote.
Viewing Angle	The camera should have 6° (telephoto), 60° (wide-angle) or better
Pan Range	The camera should have Pan movement range of - 170 degrees to + 170 degrees or better
Tilt Range	The camera should have Tilt movement range of - 30 degrees to + 90 degrees or better
Remote Control	The camera should be supplied with IR remote control as an included accessory, Min. 10 pre-set should be available & should support VISCA, Pelco-D, and Pelco-P camera control protocols
Accessories	All required accessories for installation of camera to be provided like camera bracket, connector kit screws etc.
Certification	BIS
Compliance	ROHS

2) PTZ Camera 10X: (estimated cost of Rs. 1,00,000)

Parameter	Minimum Technical Specification
Sensor	1/2.8" 2MP
White Balance	Auto or Manual White Balance.
Gain Control	auto Gain Control
Back Light	selectable Back-light compensation
S/N ratio	S/N Ratio of >50db.

Focus	Auto Focus.
Iris	Auto/Manual Iris
Optical Zoom	10X or Higher
Digital Zoom	8X or Higher
Signal Support	The camera should support signals: 1080P@30,1080P@25, 1080i@60,1080i@50, 720P@60,720P@50 ,720P@30, 720P@25, PAL, NTSC
Video Output	HDMI/ USB/ IP (as per requirement)
Pre-sets	At least 128 Position Pre-sets
OSD Menu	OSD Menu for checking the status
Image Flip	Vertical and Horizontal Image Auto Flip
Pan Range	The pan movement range of - 100 degrees to + 100 degrees or better
Tilt Range	The tilt movement range of -30 Degrees to + 30 degrees or better
Communication	RS232/ IP
Remote Control	Camera ID base tracking
Accessories	The camera should be supplied with a ceiling mounting structure for proper installation
Certification	BIS
Compliance	ROHS

3) PTZ Camera 20X: (estimated cost of Rs. 2,00,000)

Parameter	Minimum Technical Specification
Sensor	1/2.8" 2.3MP
White Balance	Auto or Manual White Balance.
Gain Control	auto Gain Control
Back Light	selectable Back-light compensation
S/N ratio	S/N Ratio of >50db.
Focus	Auto Focus.
Iris	Auto/Manual Iris
Video Output	HDMI/ USB/ IP (as per requirement)
Optical Zoom	20X or Higher
Digital Zoom	12X or higher
Signal Support	1080P@30,1080P@25, 1080i@60,1080i@50, 720P@60,720P@50, 720P@30, 720P@25 ,PAL ,NTSC
Pre-sets	At least 128 Position Pre-sets
OSD Menu	OSD Menu for checking the status
Image Flip	Vertical and Horizontal Image Auto Flip
Pan Range	Pan movement range of - 170 degrees to + 170 degrees or better
Tilt Range	Tilt movement range of -30 Degrees to + 90 degrees or better
Accessories	The camera should be supplied with a ceiling mounting structure for proper installation
Certification	BIS
Compliance	ROHS

4) PTZ Camera Auto tracking 12X: (estimated cost of Rs. 3,50,000)

Parameter	Minimum Technical Specification
Sensor	1 / 2.8" 8.6M
Video Format	2160p: 59.94 / 50 / 29.97 / 25 1080p: 59.94 / 50 / 29.97 / 25 1080i: 59. 94 / 50 720p: 59.94 / 50

Video Output Interface	USB 3.0/ HDMI/ IP (as per requirement)
Genlock	Yes
Optical Zoom	12X or Higher
Digital Zoom	8X or Higher
Horizontal Viewing Angle / Vertical Viewing Angle / Diagonal Viewing Angle	81° / 50° / 90°
Shutter Speed	1/25 ~ 1/10,000 sec
Video S/N Ratio	>50dB
Minimum Illumination	0.05 lux (F1.6, 50IRE, 30fps)
Focus System/ Gain Control/ White Balance	Auto / Manual
WDR / Image Flip / 3D NR	Yes
Panning Angle	+170° ~ -170°
Tilting Angle	+90° ~ -30°
Preset Positions	128
HDMI / 12G-SDI	1080p60 or Higher
IP Protocol	HTTP/ RTSP / RTMP / RTMPS / SRT
Output	Ethernet -3G-SDI & HDMI 2.0
Certification	BIS
Compliance	ROHS

Catogory 16.   Video Mixer:
a) 4x4 Matrix Switcher with audio de-embedding: (estimated cost of Rs. 50,000)

Parameter	Minimum Technical Specification
Output	Min. 4 HDMI/ USB matrix output (as per requirement)
Input	Min. 4 HDMI/USB Input (as per requirement)
Compliant	HDCP, EDID Compliant
Support	4K/UHD capability @60Hz
CEC	CEC display control
Audio De-embedding	Built-in HDMI audio de-embedding
Color Depth	8bit, 10bit
Bit Rate	upto 24-bit
Audio	Multi-channel audio compliant
Control	TCP/IP, RS232 & IR Control
Certification	BIS
Compliance	ROHS

b) Video Mixer: (estimated cost of Rs. 2,00,000)

Parameter	Minimum Technical Specification
Video In	HDMI type-A/ USB × 4 (as per requirement)
Video Out	HDMI type-A PGM/ USB ×1, HDMI type-A Multiview/ USB ×1 USB 3.0 type C ×1 (Streaming on PC) Assignable HDMI 1~4/ USB, PGM, Clean PGM, PVW, Color bar, Multiview
PC Control Port	LAN×1
Media Library	USB type-A ×1(USB disk port for image import and firmware upgrade)

Transitions	T-Bar/AUTO/ CUT
Effects	Wipe (9×2 patterns)/ Mix/ DIP/ Pattern/ Still(freeze)/ MUTE/ FTB
Audio Mixer	USB/ HDMI ×4 and MIC/ Line level ×2; Audio delay: 0-500ms
Generators	Pattern generator ×1 Colour generators ×2
Accessories	Power supply (12V2A) ×1; USB cable (type A-C) ×1; Tally connector (DB-15) ×1
Certification	BIS
Compliance	ROHS

Catogory 17. Video Graphic Processor
1) **Video Graphic Processor: (estimated cost of Rs. 2,00,000 considering higher configuration)**

Parameter	Minimum Technical Specification
Compatibility	Windows 11 / 10/ 8
Form Factor	Desktop external GPU system
Base and Boost Clock:	2.21 and 2.51 (GHz)/ 1.4 and 1.7 (GHz) or higher
Memory Interface Width:	256-bit/ 384-bit
Display Resolution:	7680x4320
Connectors:	3xPCIe 8-pin cables (adapter in box) OR 450 W or greater PCIe Gen 5 cable
Standard Mount Interface:	24 GB GDDR6X/ 16 GB GDDR6X or higher
Resolution	4CIF/DCIF/2CIF/CIF/QCIF/Real-time
Sync	Video and Audio Synchronization
Expansion Slots:	3-Slot (61mm)
Certification	BIS
Compliance	ROHS

Catogory 18. Wall / Ceiling Speakers
1) **Wall / Ceiling Speakers (15W): (estimated cost of Rs. 25,000 considering higher configuration)**

Parameter	Minimum Technical Specification
Effective frequency range	65 Hz to 20 kHz
Rated noise power / voltage	15 watts / 15.5 volts (rms) or 18 watts / 15.5 volts (rms) (as per requirement)
Broad-band sensitivity	89 dB SPL
Coverage angle (-6 dB)	110° (500 Hz to 5 kHz)
Maximum continuous SPL	104 dB
Maximum peak SPL	110 dB
Rated impedance	8 ohms
Woofer	Woofer size to be 6" or more HD Type
Frequency	The Speaker should have a frequency response of 80 Hz to 17,000 Hz
Baffle material	Painted ABS polymer
Grille material	Powder coated steel
Back can material	Galvanized steel
Certification	BIS
Compliance	ROHS

Catogory 19. Power Amplifier (estimated cost of Rs. 1,00,000 considering higher configuration)

Parameter	Minimum Technical Specification
Channels	1/ 2/ 4 (as per requirement)
Stereo Mode (all channels driven)8 Ω 4 Ω	100 W per channel
Bridged Outputs (all channels driven)8 Ω & 4 Ω 70 V 100 V	Minimum power (in watts) per channel > (total power of amplifier)/ No. of channel(s)
Frequency response (4 Ω and 8 Ω)	20 Hz - 20 KHz +/- 0.1 dB
Signal to noise (20 Hz - 20 KHz)	85 dB or Higher
Input sensitivity	1.23 V (+4 dBu)
Output circuitry	Class D
Input impedance	>10k
Cooling	Convection
Controls	4 Ω/8 Ω/70 V Bridged High pass On/100 V Bridged High pass (per channel pair)
Dimensions	Should be well adjustable in Podium
Certification	BIS
Compliance	ROHS

Catogory 20. DSP with Audio Mixer (estimated cost of Rs. 2,00,000)

Parameter	Minimum Technical Specification
Audio Ports	Digital Signal Processor with at least 8 Audio Ports IN and minimum 8 Out is required including Audio Input for: • 1 No Gooseneck Mic • 2 No Handheld Mic • 1 No Lapel Mic • 1 inbuilt or external USB Audio Port to allow digital connection between DSP and the PC • 01 Laptop in (Preferably USB)
Echo Cancellation	Digital Signal Processor with an Acoustic Echo Cancellation of up to 60 dB would be required or better
Noise Cancellation	The Digital Signal Processor should perform Noise Cancellation of up to 20 dB for the podium microphone, Wireless Lapel Microphone and Handheld Microphone
Environment Noise	The Digital Signal Processor should suppress residual Echo to the Environment Noise Level to prevent Artificial ducking of signal
Equalization	The Digital Signal Processor should have Power Level Equalization
Convergence	Convergence during full duplex
Control	Should have RS232/ Ethernet for control through third party Control system.
Frequency Response	20 Hz to 20 KHz
Dynamic Range	100 dB or better.
Certification	BIS
Compliance	ROHS

Catogory 21. Mic
1) Handheld Mic: (estimated cost of Rs. 50,000)

Parameter	Minimum Technical Specification
Type	Wireless Handheld Microphone
Switching Bandwidth	Up to 24 MHz
Signal o noise ratio	>102dBA or better
Total Harmonic Distortion	<0.9%
Transmitter sync	2.4GHz
Frequency Response	80Hz to 14KHz or better
Sensitivity	< 3 µV at 52 dB(A)
Functionality	Mute/unmute button
Operating time	10 hours or better

2) Lavalier Microphone: (estimated cost of Rs. 50,000)

Parameter	Min. Specifications
Type	Wireless Lapel Microphone
switching Bandwidth	Up to 24 MHz
Signal-to-noise ratio	>102dBA or better
Total Harmonic Distortion	<0.9%
Transmitter sync	2.4GHz
Frequency Response	50 Hz to 16KHz or better
Sensitivity	< 3 µV at 52 dB(A)
Pre-polarized Polar Pattern	Omni-directional or better
Operating time	10 hours or better

Catogory 22. Switcher (estimated cost of Rs. 1,50,000)

Parameter	Minimum Technical Specification
Audio Output	4KUHD+ 4×2 HDMI Matrix
Connection	Four sources of (4KUHD+ HDMI)
Support signal	4K@60Hz (4:4:4, 8- bit) & 16 bit deep color HDR (High Dynamic Range), 3D content, HD audio and other features defined by the HDMI 2.0
input	independently set to use either an internal (Min. 1080p@60Hz or higher) or external (sink-copied) EDID
per-output auto	source switching & connected display power control using CEC or RS-232
Switching Response	freely switch between input source

Catogory 23. Projector (estimated cost of Rs. 50,000 considering higher configuration)

Parameter	Minimum Technical Specification
Technology	3 LCD
Projection Method	Front & Rear Both
Minimum Resolution	XGA (1024 x 268)/ WXGA (1366 x 768) (as per required)
Brightness	Minimum 3300 ANSI Lumens for Color Light & White Light Output Both
Contrast Ratio	15000:1
Aspect Ratio	Minimum 4:3

Throw Ratio	1.44 – 1.95:1
Lamp Type	UHE
Lamp Life	Minimum 6000 Hrs. Normal Mode & 12000 Hrs. in Eco Mode
I/O Connection	VGA, HDMI, USB
Warranty	3 Years comprehensive on site OEM warranty

Catogory 24. LCD Writing Panel
   a) Interactive White Board 21": (estimated cost of Rs. 20,000)

Parameter	Minimum Technical Specification
Size	Size should be 21 inch or higher
LED	The monitor should be LED backlit.
Resolution	The monitor should have a native resolution of 1920x1080 or better
Port	Should come with a USB port for control signals.
Luminosity	The monitor should have a Luminosity of 210 cd/m^2 or more.
Connectivity	Should have a 15 Pin HD Input ports or DVI port.
OS Support	Should support Win 7 or higher.
Sensor	Should have an Electromagnetic Sensor Method.
Certification	BIS
Compliance	ROHS

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