

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 and circular No. P.1 (8) Fin./ GF&AR/ 98 PT.-I dated 12-02-2024 issued by Finance Dept., Govt. of Rajasthan.

In reference to the subject and pursuance of referred Order/ Circular cited above, all concerned are hereby informed that category-wise Minimum Technical Specification of ICT items are attached at annexure- "A" for consideration as generic Technical Specifications for Department's IT equipment procurement.

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

It is also advised to strictly comply with the technical specifications uploaded on websites of DoIT&C & FD and the RTPP Rules with intention to maintain price competitiveness, avoiding monopoly and encouraging competition.

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. 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

RajKaj Ref
12035960



Signature valid

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Annexure- "A"

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Category 1. Desktop Computer

I. Entry Level configuration

A. Intel i3 (estimated cost Rs. 50,000 considering pre-installed Genuine Windows 11 Professional, 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 13 th 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Memory (RAM) | 8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (<i>As per requirement of Dept. for selection of 8 GB or 16 GB</i>) |
| Storage | 256 GB/ 512 GB/ 1 TB SSD (<i>As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB</i>) |
| 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 Professional, 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Memory (RAM) | 8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (<i>As per</i> |

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| | |
|-------------------|--|
| | <i>requirement of Dept. for selection of 8 GB or 16 GB)</i> |
| 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 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 13 th 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 |

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| | |
|-----------------|---|
| 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. <i>as per requirement</i>) 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 Genuine Windows 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 13 th 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. <i>as per requirement</i>) |

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|-------------------|--|
| | 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 Genuine Windows 11 Professional, 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 Bluetooth 4.0 or higher |

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| | |
|-----------------|---|
| 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 |

Category 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 13 th 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Memory (RAM) | 8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (<i>As per requirement of Dept. for selection of 8 GB or 16 GB</i>) |
| Storage | 256 GB/ 512 GB/ 1 TB SSD (<i>As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB</i>) |
| 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 or higher |
| 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. <i>as per requirement</i>) |

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| | 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 or higher |
| 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 Professional, 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 13 th 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 or higher |
| 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 |

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| 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. <i>as per requirement</i>) 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 or higher |
| 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 13 th 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Memory (RAM) | 8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (As per |

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| | <i>requirement of Dept. for selection of 8 GB or 16 GB)</i> |
| 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 or higher |
| 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 Professional, 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 or higher |
| 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 |

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Category 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 13 th 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Display | 14" HD (1366 × 768 HD display)/ Full HD Display (1920 × 1080 FHD 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. <i>as per requirement</i>) 2. Recovery partition (applicable for Windows). |
| Display | 14" HD (1366 × 768 HD display)/ Full HD Display (1920 × 1080 FHD 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) |

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|-----------------------|--|
| Hard Drive | 256 GB/ 512 GB (<i>As per requirement of Dept. for selection of 256 GB or 512 GB</i>) |
| 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 13 th 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 |

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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. <i>as per requirement</i>) 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 13 th 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. <i>as per requirement</i>) 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 |

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| | |
|-----------------------|---|
| 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 7 (estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Professional)

| 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 |

Category 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 |

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| | |
|------------------|---|
| Memory | 32 GB (32X1) or higher, DDR5, 4800 MHz (Upgradeable up to minimum 64 GB) |
| Hard Disk Drive | 1 TB or higher Gen. 4 PCIe NVMe M.2 SSD |
| 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 g) min. 2 USB 3.2 Gen 1 Type-A (1x power enabled) |
| OS Certification | 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) |

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

| Parameter | Minimum Technical Specification |
|-----------|---------------------------------|
|-----------|---------------------------------|

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| | |
|--------------------------|--|
| Processor | Intel/AMD Dual Core or higher Processor, minimum 2.0 GHz with 4 MB or Higher Cache |
| Mother Board | Compatible Chipset |
| Graphic | HD Graphic |
| Memory (RAM) | 4 GB DDR4 RAM or higher, 2400 MHz or Higher upgradable 16 GB |
| Storage | 256 GB SSD or Higher |
| Display | 21.5 inch (or higher) HD Color Monitor with 1920 * 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 |
| I/O Port | Minimum 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 |

Category 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 |
|------------------|--|
|------------------|--|

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| | |
|---------------------------|--|
| 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 |

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| | |
|---------------------------|--|
| 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 |

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 |

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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 |

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C. Laser – 25 PPMwith 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 |

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| | |
|---------------------------|--|
| 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 |

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| | |
|-----------------------------|--|
| 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 |

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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 2D 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" with adjustable printing size. |
| Cables & Interfaces | All necessary cables & interfaces for connectivity to Mains & Computer. |
| Others | Should come with drivers for Windows, Mac OS |
| 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 |

Category 7. Multifunctional 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 |

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| 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 |

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| | |
|---------------------------|--|
| 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 |

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| | |
|---------------------------|--|
| 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 |

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| | |
|---------------------------|--|
| 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 |

Category 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 |

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| | |
|--------------------|--|
| 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 |

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| | |
|----------------------------|---|
| 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 |

Category 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 |

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|-----------------------------------|---|
| 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 |

III. Tablet (8.5 inch- 4 GB – 64 GB) (estimated cost Rs.12,000)

| Parameter | Minimum Technical Specifications |
|--|----------------------------------|
| Display Size (Min.) (Inch) | 8.5" Inch or higher |
| Display Resolution (Pixels) | 1340*800 or higher |
| Display Type | IPS/ TFT LCD or equivalent |
| Brightness (Nits) | 350 or higher |
| Operating System | Android 13.0 or Higher |
| Connectivity Type | Wi-Fi & 4G/LTE |
| 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 |
| RAM Size and type | 4 GB LPDDR3 or higher |
| Internal Storage | 64 GB or higher |
| Location Technology | GPS/ AGPS |
| Storage upgradable up to (Through Micro SD Card) | 256 GB or higher |

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| | |
|-------------------------|--|
| Rear Camera | 8 MP or higher |
| Front Camera | 2 MP or higher |
| Battery Capacity (Min.) | 5000 mAh or higher |
| Certification | BIS |
| Compliance | ROHS |
| Additional Accessories | USB Cable & Charger |
| Warranty | 3 years comprehensive OEM warranty including battery |

Category 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 / 50 Hz |
| Range | 170V- 270V |
| Power factor | 0.6 or higher |
| Back up time | 168 VAH for 20 Minutes back upon 1 PC (In built Batteries) |
| Indicator | Mains On/ On Battery/ Low Battery/ Fault/ Overload |
| Plug and cable | As per standard |
| Battery Type | Sealed Lead Acid Valve Regulated |
| Alarm | ON Battery/ Fault Over Load, Low Battery |
| Certifications | BIS, ISO 9001 |
| 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/ 50Hz |
| Range | 170V-270V |
| Power factor | 0.7 or higher |
| Back up time | 504 VAH for 30 Minutes back upon 4 PC (In built Batteries) |
| Indicator | Mains On/ On Battery/ Low Battery/ Fault/ Overload |
| Plug and cable | As per standard |
| Battery Type | Sealed Lead Acid Valve Regulated |
| Alarm | ON Battery/ Fault Over Load, Low Battery |
| Certifications | BIS, ISO 9001 |
| 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 |

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

| Parameter | Minimum Technical Specification |
|--------------------------------------|--|
| 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 Voltage 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 | Battery shall be of Sealed Maintenance (SMF) or VRLA type |
| 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 |
|--------------------|--|
| Mode | Line interactive |
| DC Voltage | Default 192 V+, Adjustable to 216/ 220 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% |

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|----------------------------------|---|
| 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 Certified with Rack/ Tray |
| 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 |

V. Online UPS 1KVA (estimated cost Rs. 20,000)

| Parameter | Minimum Technical Specifications |
|----------------|--|
| UPS Capacity | 1 KVA |
| Mode | Online |
| Protection | Full Protection |
| voltage | 230V/ 50Hz |
| Range | 110V-280V @ < 50% load, 170V -280V @100% load |
| Power factor | 0.8 or higher |
| Back up time | 336 VAH for 30 Minutes back upon 2 PC (In built Batteries) |
| Indicator | Mains On/ On Battery/ Low Battery/ Fault/ Overload |
| Plug and cable | As per standard |
| Battery Type | Battery shall be of Sealed Maintenance (SMF) or VRLA type |
| Alarm | ON Battery/ Fault Over Load, Low Battery |
| Certifications | BIS, ISO 9001 |
| 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 |

VI. Online UPS 2 KVA (estimated cost of Rs. 50,000)

| Parameter | Minimum Technical Specifications |
|--------------|----------------------------------|
| UPS Capacity | 2 KVA |
| Mode | Online |
| Protection | Full Protection |

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| | |
|----------------|--|
| voltage | 230V/ 50Hz |
| Range | 110V-280V @ < 50% load, 170V -280V @100% load |
| Power factor | 0.8 or higher |
| Back up time | 672 VAH for 30 Minutes back upon 5 PC (In built Batteries) |
| Indicator | Mains On/ On Battery/ Low Battery/ Fault/ Overload |
| Plug and cable | As per standard |
| Battery Type | Battery shall be of Sealed Maintenance (SMF) or VRLA type |
| Alarm | ON Battery/ Fault Over Load, Low Battery |
| Certifications | BIS, ISO 9001 |
| 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 |

VII. Online UPS 3 KVA (estimated cost Rs. 80,000)

| Parameter | Minimum Technical Specification |
|--------------------------------------|--|
| Rated Capacity | 3 KVA / 2700 Watts |
| Mode | Online |
| Input Voltage Range (Load <50%) | 118~280V (± 5V) |
| Input Voltage Range (Load >50%) | 170~280V (± 5V) |
| Frequency | 50 Hz ± 0.1 Hz |
| Phase | Single Phase with Ground |
| Power Factor | ≥ 0.9 @ full load |
| Output Voltage 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) | ≤5% |
| Overload | >110% for 1 Min >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 | Battery shall be of Sealed Maintenance (SMF) or VRLA type with minimum 1 Hrs. Battery Backup at full load, ISO 9001 & 14001 Certified with Rack/ Trays |
| RS232, SNMP (Optional) | RS232, SNMP (Optional) |
| Certifications | BIS, ISO 9001 |
| Compliance | ROHS (Only UPS) |

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| | |
|-------------|---|
| 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 |

VIII. Online UPS 5 KVA (estimated cost Rs. 1,75,000)

| Item | Minimum Technical Specifications |
|----------------------------------|---|
| UPS Capacity | 5 KVA |
| Mode | Online |
| DC Voltage | Default 192V+, (192 – 240 Settable) |
| 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 | ≥ 0.9 |
| Voltage Regulation | ≤ ±2% |
| Inverter Efficiency | ≥93% |
| 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 20 msec. |
| 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 Certified with Rack/ Tray |
| 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 |

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| Parameter | Minimum Technical Specification |
|---------------------------|---|
| 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 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 |

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|---------------------------|---|
| 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 |

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| | |
|---------------------------|---|
| 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 |

Category 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 43": (estimated cost Rs. 40,000)

| Parameter | Minimum Technical Specification |
|-------------------------|---------------------------------|
| Size | 43" 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% |

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| | |
|------------------|---|
| 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 48": (estimated cost Rs. 45,000)

| 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 |

4) LED 50": (estimated cost Rs. 50,000)

| Parameter | Minimum Technical Specification |
|------------------|---------------------------------|
| Size | 50" Direct LED |
| Panel Technology | IPS |
| Resolution | 3840*2160 (4KUHD) |
| Brightness | 400 Nits or higher |

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| | |
|-------------------------|---|
| 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 |

5) LED 55": (estimated cost Rs. 60,000)

| 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 |

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6) 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 |

Category 13. Web Camera: (estimated cost of Rs. 2000)

| Parameter | Minimum Technical Specification |
|-------------------------|---|
| Device Type | Plug & Play Web Camera |
| Connectivity Technology | Wired |
| Resolution | Minimum 2 MP and shall support upto 1080P Video Capture at minimum 30 fps |
| Image Sensor | CMOS |
| Features | Clear and richer picture with 5G/>=55 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. |

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

| Parameter | Minimum Technical Specification |
|-----------|---------------------------------|
|-----------|---------------------------------|

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|---------------------------|--|
| 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 <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 |

Category 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 |

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| | (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. |

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| | |
|----------------|---|
| 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 |

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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 |

Category 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 |

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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 |

Category 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 |

Category 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 |

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| 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 |

Category 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 |

Category 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: <ul style="list-style-type: none"> • 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 |

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|--------------------|---|
| | 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 |

Category 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 to noise ratio | >102dBA or better |
| Total Harmonic Distortion | <0.9% |
| Transmitter sync | 2.4GHz |
| Frequency Response | 80Hz to 14KHz or better |
| Sensitivity | < 3 μ V 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 μ V at 52 dB(A) |
| Pre-polarized Polar Pattern | Omni-directional or better |
| Operating time | 10 hours or better |

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

| Parameter | Minimum Technical Specification |
|------------------|---|
| Audio Output | 4KUHD+ 4x2 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 |

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| | |
|--------------------|--|
| | 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 |

Category 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 |

Category 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 |

Category 25. Head Phone (estimated cost of Rs. 1200)

| Parameter | Minimum Technical Specification |
|-----------------------------|--|
| Type | Over the Head, Plug & Play |
| Noise Cancelling microphone | Yes |
| Connection Type | Single/ Double 3.5mm Jack (As per requirement of Department) |
| Impedance | 32 Ohms |
| Frequency Response | Headphone 20Hz-20K HZ, Microphone 100HZ-16K HZ |
| Sensitivity Headphone | 100 DB+/-3DB |
| Certification | BIS |

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| | |
|------------|--|
| Compliance | ROHS |
| Warranty | 3 Years comprehensive on site OEM warranty |

Category 26. Biometric Scanner (estimated cost of Rs. 3000)

| | |
|-------------------------|--|
| Scanning technology | Optical L1- Fingerprint Scanner |
| Fingerprint Sensor Type | Optical Scratch-Free Sensor |
| Operation | Plug and Play |
| Compatibility | Windows 10 or higher, Android |
| Sensing Area | 15mm x18 mm |
| Uses | Useful for e-KYC, Interface-USB/C-Type, Should support- Aadhaar Enable, Sim Activation, Payment, Access control, Time & Attendance |
| Interface | USB 2.0 |
| Certification | BIS, STQC & UIDAI Certified |
| Compliance | ROHS |
| Warranty | 3 Years comprehensive onsite OEM warranty |

Category 27. Hard Drive

A. SATA 4 TB (estimated cost of Rs. 10,000)

| Parameter | Minimum Technical Specification |
|-------------------------|---------------------------------|
| Storage | 4 TB |
| Interface | SATA |
| Type | External |
| Warranty | 3 Year |
| Connectivity Technology | USB |
| Compatible Device | Laptop, Desktop, IFPD |
| Installation Type | Plug in |
| Accessories | USB 3.0 Cable |

B. SATA 2 TB (estimated cost of Rs. 5000)

| Parameter | Minimum Technical Specification |
|-------------------------|---------------------------------|
| Storage | 2 TB |
| Interface | SATA |
| Type | External |
| Warranty | 3 Year |
| Connectivity Technology | USB |
| Compatible Device | Laptop, Desktop, IFPD |
| Installation Type | Plug in |
| Accessories | USB 3.0 Cable |

####End of Document####

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