

No. F5.501(1429)/DoITC HQ/2024/

Date: Digital Sign date

**NOTIFICATION**

Sub.: Regarding Generic 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 Generic 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:

1. to consider latest Notification published on Dept. of IT&C's website.
2. 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.
3. that in continuation to the Point No. 2, on compliance, Department(s) are ADVISED, to compare and evaluate Desktops Computers/ Laptops/ All-in-One/ Desktop Computers and Workstations based, upon (Processor Manufacturers 'AMD' & "Intel" on Parameters like, Price, Performance, overall, TCO (Total Cost of Ownership.))" upon publishing an RFP/ Tender.
4. that addition or alteration in any of the specifications and certification mentioned in the Notification will not be considered valid. Departments are strictly advised to publish two different technology items separately without using OR and Slash ('/') in between items.
5. that HDD/ SSD should be kept by Department as no replacement of the same should be made under AMC/ Warranty.

This bears approval from competent level.

Encl.: As above.

**(Akhilesh Mittal)**  
Technical Director

Copy for information and necessary action to:

1. PS to Principal Secretary, Finance Dept., Rajasthan, Jaipur
2. Sr. PS to Commissioner & Secretary, Dept. of IT&C, Rajasthan, Jaipur
3. PS to Secretary, Secretary, Finance (Exp.) Dept., Rajasthan, Jaipur
4. Joint Secretary, Finance (GF & AR) Dept., Rajasthan, Jaipur
5. Group Head-Website, Dept. of IT&C, Jaipur to upload this Notification DoIT&C's website

Technical Director  
Signature valid



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Date: 2025.10.10 00:02:09 IST  
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**Category 1. Desktop Computer**
**I. Entry Level configuration**

**A. Intel i3 with 14<sup>th</sup> Generation** (estimated cost Rs. 60,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i3, 4 Core or higher, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher with 14th or higher Generation and to be Certified by OEM   |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400 MHz 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

**B. Ryzen 3 with 8000 Series** (estimated cost Rs. 60,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter | Generic Technical Specification   |
|-----------|---|
| Processor | Ryzen 3, 4 Core or higher, with minimum 3.4 GHz or higher (Base Frequency), 12 MB Cache or higher with 8000 Series or higher and to be Certified by OEM |

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|                              |  |
|------------------------------|--|
| Chipset                      | AMD  |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400 MHz or higher with 64 GB Expandability<br><i>(As per requirement of Dept. for selection of 8 GB or 16 GB)</i>  |
| Storage                      | 512 GB/ 1 TB SSD <i>(As per requirement of Dept. for selection of 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

**C. Intel i3 with 13<sup>th</sup> Generation** (estimated cost Rs. 50,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic 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 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Chipset          | Compatible Chipset   |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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>  |

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|                              |  |
|------------------------------|--|
| Storage                      | 256 GB/ 512 GB/ 1 TB SSD (As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB)                                     |
| Graphics                     | Integrated HD Graphic card or higher   |
| Ports                        | Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone               |
| Display                      | Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**  
 Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 3 with 5000 Series** (estimated cost Rs. 50,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)     | 8 GB/ 16 GB DDR4 3200MHz or higher with 64 GB Expandability (As per requirement of Dept. for selection of 8 GB or 16 GB)   |
| Storage          | 256 GB/ 512 GB/ 1 TB SSD (As per requirement of Dept. for selection of 256 GB or 512 GB or 1 TB)   |
| Graphics         | Integrated HD Graphic card or higher   |
| Ports            | Minimum 5 USB ports with at least 2 USB 3.0 or higher ports, HDMI, Display port, Audio jack for headphone & microphone   |
| Display          | Minimum 19.5 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus        | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |

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|                              |   |
|------------------------------|---|
| Model specific Certification | BIS (for Monitor only)  |
| Compliance                   | RoHS, ISO 9001  |
| 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  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**II. Medium level configuration**

**A. Intel i5 with 14<sup>th</sup> Generation** (estimated cost Rs. 75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i5, 10 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 20 MB Cache or higher with 14 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400 MHz 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 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            |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

**B. Ryzen 5 with 8000 Series** (estimated cost Rs. 75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Ryzen 5, 6 Core or higher, with minimum 2.7 GHz or higher (Base Frequency), 22 MB Cache or higher with 8000 Series or higher and to be Certified by OEM  |
| Chipset                      | AMD  |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400 MHz 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

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**C. Intel i5 with 13<sup>th</sup> Generation** (estimated cost Rs. 60,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| <b>Parameter</b>             | <b>Generic Technical Specification</b>   |
|------------------------------|--|
| Processor                    | Intel i5, 6 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 18 MB Cache or higher with 13 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 5 with 5000 Series** (estimated cost Rs. 60,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| <b>Parameter</b> | <b>Generic Technical Specification</b>  |
|------------------|---|
| 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   |

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| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

### III. Mid-High level configuration

**A. Intel i7 with 14<sup>th</sup> Generation** (estimated cost Rs. 90,000 considering pre-installed GenuineWindows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic Technical Specification  |
|------------------|--|
| Processor        | Intel i7, 20 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 33 MB Cache or higher with 14 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Chipset          | Compatible Chipset   |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)     | 8 GB/ 16 GB DDR5 4400 MHz 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)   |

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|------------------------------|--|
| 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

**B. Ryzen 7 with 8000 Series** (estimated cost Rs. 90,000 considering pre-installed GenuineWindows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic Technical Specification  |
|------------------|--|
| Processor        | Ryzen 7, 8 Core or higher, with minimum 2.10 GHz or higher (Base Frequency), 24 MB Cache or higher with 8000 Series or higher and to be Certified by OEM   |
| Chipset          | AMD  |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)     | 8 GB/ 16 GB DDR5 4400 MHz or higher with 64 GB Expandability<br><i>(As per requirement of Dept. for selection of 8 GB or 16 GB)</i>  |
| Storage          | 512 GB/ 1 TB SSD <i>(As per requirement of Dept. for selection of 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 21 inch or higher, Resolution 1600x900 or higher Display   |
| Antivirus        | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |

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|------------------------------|---|
| Model specific Certification | BIS (for Monitor only)  |
| Compliance                   | RoHS, ISO 9001  |
| 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 5.0 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  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Note: NVIDIA 4GB Graphics Card having estimated cost of Rs. 20,000 may be added separately by the Departments as per their requirement in Desktops.**

**C. Intel i7 with 13<sup>th</sup> Generation** (estimated cost Rs. 75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i7, 12 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 12 MB Cache or higher with 13 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| Keyboard & Mouse             | USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as Desktop)  |

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

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 7 with 5000 Series** (estimated cost Rs. 75,000 considering pre-installed GenuineWindows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS (for Monitor only)   |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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**Category 2. All in one Desktop computer**

**I. Entry level configuration**

**A. Intel i3 with 14<sup>th</sup> Generation** (estimated cost Rs. 75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| <b>Parameter</b>             | <b>Generic Technical Specification</b>   |
|------------------------------|--|
| Processor                    | Intel i3, 4 Core or higher, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher with 14 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 or higher  |
| Accessories                  | All necessary cables   |
| Security                     | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)  |
| Warranty                     | 3 Years comprehensive on-site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. Ryzen 3 with 8000 Series** (estimated cost Rs. 75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| <b>Parameter</b> | <b>Generic Technical Specification</b>   |
|------------------|--|
| Processor        | 4 Core or higher, with minimum 3.4 GHz or higher (Base Frequency), 12 MB Cache or higher with 8000 Series or higher and to be Certified by OEM |
| Chipset          | AMD  |

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|                              |  |
|------------------------------|--|
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 or higher  |
| Accessories                  | All necessary cables   |
| Security                     | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)  |
| Warranty                     | 3 Years comprehensive on-site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. Intel i3 with 13<sup>th</sup> Generation** (estimated cost Rs. 65,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic 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 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Chipset          | Compatible Chipset   |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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  |

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|------------------------------|--|
| 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**  
Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 3 with 5000 Series** (estimated cost Rs. 65,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |

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

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**II. Medium level configuration**

**A. Intel i5 with 14<sup>th</sup> Generation** (estimated cost Rs. 85,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i5, 10 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 20 MB Cache or higher with 14 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 or higher  |
| Accessories                  | All necessary cables   |
| Security                     | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)  |
| Warranty                     | 3 Years comprehensive on-site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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**B. Ryzen 5 with 8000 Series** (estimated cost Rs. 85,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | 6 Core or higher, with minimum 2.7 GHz or higher (Base Frequency), 22 MB Cache or higher with 8000 Series or higher and to be Certified by OEM   |
| Chipset                      | AMD  |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 or higher  |
| Accessories                  | All necessary cables   |
| Security                     | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)  |
| Warranty                     | 3 Years comprehensive on-site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. Intel i5 with 13<sup>th</sup> Generation** (estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic 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 <sup>th</sup> or higher Generation and to be Certified by OEM |
| Chipset          | Compatible Chipset   |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)  |

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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)   |
| 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 5 with 5000 Series** (estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic Technical Specification  |
|------------------|--|
| Processor        | 6 Core or higher, with minimum 2.5 GHz or higher (Base Frequency), 18 MB Cache or higher with 5000 Series or higher and to be Certified by OEM   |
| Chipset          | AMD  |
| Operating System | 1. Pre-installed Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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   |

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|------------------------------|--|
| Display                      | Minimum 23.8 inch or higher, Resolution 1920x1080 or higher Display  |
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

### III. Mid-High level configuration

**A. Intel i7 with 14<sup>th</sup> Generation** (estimated cost Rs.1,00,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i7, 20 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 33 MB Cache or higher with 14 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Chipset                      | Compatible Chipset   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Keyboard & Mouse             | USB Keyboard & USB two button optical Mouse with Mouse Pad (Same make as AIO)  |

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|-------------------|---|
| Network Interface | Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 5.0 or higher |
| Accessories       | All necessary cables  |
| Security          | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)                                     |
| Warranty          | 3 Years comprehensive on-site OEM warranty  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. Ryzen 7 with 8000 Series** (estimated cost Rs.1,00,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | 8 Core or higher, with minimum 2.1 GHz or higher (Base Frequency), 24 MB Cache or higher with 8000 Series or higher and to be Certified by OEM   |
| Chipset                      | AMD  |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Memory (RAM)                 | 8 GB/ 16 GB DDR5 4400MHz 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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 5.0 or higher  |
| Accessories                  | All necessary cables   |
| Security                     | 2.0 Trusted Platform Module (TPM) (Hardware/Firmware)  |
| Warranty                     | 3 Years comprehensive on-site OEM warranty   |

**Note:**

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**C. Intel i7 with 13<sup>th</sup> Generation** (estimated cost Rs.90,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter                    | Generic 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 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Chipset                      | Compatible Chipset   |
| Operating System             | <ol style="list-style-type: none"> <li>Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)</li> <li>Recovery partition (applicable for Windows).</li> </ol> |
| 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Ryzen 7 with 5000 Series** (estimated cost Rs.90,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 1 TB Storage)

| Parameter        | Generic 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 | <ol style="list-style-type: none"> <li>Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)</li> </ol> |

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|                              | 2. Recovery partition (applicable for Windows).  |
| Memory (RAM)                 | 8 GB/ 16 GB DDR4 3200MHz or higher with 32/ 64 GB Expandability<br><i>(As per 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Category 3. Laptop computer –**
**I. Entry level configuration**

**A. Intel i3** (estimated cost Rs.50,000 considering pre-installed Genuine Windows 11 Professional, 16 GB RAM and 512 GB Hard Drive)

| Parameter            | Generic Technical Specification  |
|----------------------|--|
| Processor            | Intel i3, Minimum 4 core or higher, 10 MB Cache or higher with 13 <sup>th</sup> or higher Generation and to be Certified by OEM  |
| Operating System     | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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   |

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|------------------------------|--|
| Connection Type              | Min 2 USB 3.0 Type A or higher, USB 3.0 Type C or higher, 1 Head phone/ Microphone combo/ separate, HDMI 1.4 port or higher          |
| 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Accessories                  | Carry Bag  |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |

**Note:**  
Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter             | Generic 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Display               | 14" HD (1366 x 768 HD display)/ Full HD Display (1920 x 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       | Min 2 USB 3.0 Type A or higher, USB 3.0 Type C or higher, 1 Head phone/ Microphone combo/ separate, HDMI 1.4 port or higher  |
| 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   |

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|------------------------------|--|
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Accessories                  | Carry Bag  |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

## II. Medium level configuration

### A. Intel i5 (estimated cost Rs.70,000 considering pre-installed Genuine Windows 11 Professional)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Intel i5, Minimum 4 core or higher, 12 MB Cache or higher 13 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Operating System             | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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 1.4, 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Accessories                  | Carry Bag  |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

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

| <b>Parameter</b>   | <b>Generic Technical Specification</b>   |
|--|--|
| 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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 1.4, 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  | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided.   |
| Model specific Certification   | BIS  |
| Compliance   | RoHS, ISO 9001   |
| Accessories  | Carry Bag  |
| Warranty   | 3 Years comprehensive on site OEM warranty   |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**III. Mid-High level configuration**

**A. Intel i7** (estimated cost Rs.75,000 considering pre-installed Genuine Windows 11 Professional)

| <b>Parameter</b> | <b>Generic Technical Specification</b>   |
|------------------|--|
| Processor        | Intel i7, Minimum 8 core or higher, 12 MB Cache or higher 13 <sup>th</sup> or higher Generation and to be Certified by OEM   |
| Operating System | 1. Pre-installed OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>2. Recovery partition (applicable for Windows). |
| Display          | 14" or higher diagonal Full HD Display   |

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|------------------------------|--|
| 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 1.4, 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                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Accessories                  | Carry Bag  |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

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

| Parameter             | Generic 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 OEM Certified Genuine Microsoft Windows 11 Professional (64 bit) or higher/ Latest Linux version (to be decided by concerned Dept. as per requirement)<br>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 1.4, 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   |

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|------------------------------|--|
| Antivirus                    | Minimum 3 years subscription Antivirus with protection for Ransomware, Browsing, Phishing along with OEM undertaking to be provided. |
| Model specific Certification | BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Accessories                  | Carry Bag  |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

**Category 4. Workstation:**
**A. 13<sup>th</sup> Generation Intel® Core™ i9** (estimated cost of Rs. 2,00,000)

| Parameter                       | Minimum Tech. Specifications  |
|---------------------------------|---|
| Processor                       | 36 MB Cache, 14 Cores, 20 threads, up to 5 GHz Turbo or higher  |
| Chipset                         | Compatible Chipset  |
| Memory                          | 32 GB (32X1) or higher, DDR5, 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<br>b) min. 2 USB 3.2 Gen 1 Type-A (1x power enabled)<br>c) min. 2 HDMI 2.0 or higher<br>d) min. 4 USB-C ports<br>e) Smart Card (Optional) |
| OS Model specific Certification | Windows/ RHEL Certified (as per requirement)  |
| Networking                      | a) Min. 2 Integrated 10/100/1000 GB Ethernet<br>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>Note:</b>                    | Any deviation/ alteration/ modification in the specification will not be considered valid.  |

**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, 4800 MHz (Upgradeable up to 64 GB) |

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|---------------------------------|--|
| Hard Disk Drive                 | 1 TB SSD or higher   |
| 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. 4 USB-C ports  |
|                                 | e) Smart Card (Optional)   |
| OS Model specific 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  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                | Generic Technical Specification  |
|--------------------------|--|
| 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   |

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|------------------------------|---|
| Preloaded software           | (1) Open office latest version (2) Adobe Acrobat Reader |
| Model specific Certification | BIS   |
| Compliance                   | ROHS, ISO 9001  |
| Warranty                     | 3 years comprehensive on-site warranty                  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                 | Generic Technical Specification |
|---------------------------|---------------------------------|
| Functions                 | Print                           |
| Printing technology       | InkTank (Bottle/ Pouch Based)   |
| 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             |

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|                               |  |
|-------------------------------|--|
| Compatible OS                 | Windows and Linux                          |
| Cables/ Accessories           | All the required cables, accessories       |
| Software Media                | Driver & Utility software                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. Laser – 18 PPM** (estimated cost Rs.15,000)

| Parameter                     | Generic 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                        | 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. InkTank – 18 PPM** (estimated cost Rs. 15,000)

| Parameter                 | Generic Technical Specification |
|---------------------------|---------------------------------|
| Functions                 | Print                           |
| Printing technology       | InkTank (Bottle/ Pouch Based)   |
| Paper size                | A4 or higher                    |
| Print Speed (Minimum)     | 18 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               |

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|-------------------------------|--|
| Cables/ Accessories           | All the required cables, accessories       |
| Software Media                | Driver & Utility software                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**E. Laser – 18 PPM with Wi-Fi & Ethernet (estimated cost Rs. 20,000)**

| Parameter                     | Generic 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                        | Auto                                       |
| Connectivity                  | Hi-Speed USB 2.0 port, Wi-Fi, Ethernet     |
| Duty Cycle (Monthly)          | 8000 pages or higher                       |
| Memory                        | 64 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**F. InkTank – 18 PPM with Wi-Fi & Ethernet (estimated cost Rs.20,000)**

| Parameter                 | Generic Technical Specification        |
|---------------------------|--|
| Functions                 | Print                                  |
| Printing technology       | InkTank (Bottle/ Pouch Based)          |
| Paper size                | A4 or higher                           |
| Print Speed (Minimum)     | 18 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                    | 64 MB or higher                        |
| Input paper tray capacity | 100 pages or higher                    |
| Compatible OS             | Windows and Linux                      |
| Cables/ Accessories       | All the required cables, accessories   |

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|-------------------------------|--|
| Software Media                | Driver & Utility software                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                 | Generic Technical Specification      |
|---------------------------|--------------------------------------|
| Functions                 | Print                                |
| Printing technology       | InkTank (Bottle/ Pouch Based)        |
| 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 |

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| Software Media   | Driver & Utility software                  |
| Model specific Certifications  | BIS  |
| Compliance   | RoHS, ISO 9001                             |
| Warranty   | 3 Years comprehensive on site OEM warranty |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

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

| Parameter                     | Generic 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                        |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                                   |
| Warranty                      | 3 Years comprehensive on site OEM warranty       |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic Technical Specification                  |
|-------------------------------|--|
| Functions                     | Print  |
| Printing technology           | InkTank (Bottle/ Pouch Based)                    |
| 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                        |
| Model specific Certifications | BIS  |

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|  |  |
|--|--|
| Compliance   | RoHS, ISO 9001                             |
| Warranty   | 3 Years comprehensive on site OEM warranty |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

### III. Mid-High Level Configuration

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

| Parameter                     | Generic Technical Specification                  |
|-------------------------------|--|
| Functions                     | Print  |
| Printing technology           | Laser  |
| Paper size                    | A4, Legal or higher                              |
| Print Speed (Minimum)         | 30 PPM (Mono) or higher                          |
| Print Resolution              | 600 x 600 dpi or higher                          |
| Duplex                        | Auto   |
| Connectivity                  | Hi-Speed USB 2.0 port or higher, Wi-Fi, Ethernet |
| Duty Cycle (Monthly)          | 10000 pages or higher                            |
| Memory                        | 256 MB or higher                                 |
| Input paper tray capacity     | 200 pages or higher                              |
| Compatible OS                 | Windows and Linux                                |
| Cables/ Accessories           | All the required cables, accessories             |
| Software Media                | Driver & Utility software                        |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                                   |
| Warranty                      | 3 Years comprehensive on site OEM warranty       |

#### **Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic Technical Specification                  |
|-------------------------------|--|
| Functions                     | Print  |
| Printing technology           | InkTank (Bottle/ Pouch Based)                    |
| 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                        |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                                   |
|                               | Signature valid                                  |

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| Warranty   | 3 Years comprehensive on site OEM warranty |
| <b>Note:</b><br>Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**IV. Colour Printer Laser – 20 PPM** (estimated cost Rs. 30,000)

| Parameter                    | Generic 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) |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001                               |
| Warranty                     | 3 Years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                        | Generic 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  |

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| Accessories  | All Accessories cables (Power and Data Cable) to be included |
| Warranty   | 3 years comprehensive on-site OEM warranty                   |
| <b>Note:</b><br>Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**VI. Dot Matrix Printer 80 Column:** (Overall estimated cost Rs. 25,000)

| Features                       | Specification                 |
|--------------------------------|-------------------------------|
| Printer type                   | Dot Matrix Printer            |
| Pins                           | 24 pins                       |
| Column                         | 80 column or higher           |
| Print speed in 12 CPI HSD      | 400 CPS or higher             |
| Print speed in 10 CPI HSD      | 340 CPS or higher             |
| Print speed in 10 CPI Draft    | 250 CPS or higher             |
| Built in Barcode fonts         | Yes. 8 built in barcode fonts |
| Built in Indian Language Fonts | YES                           |
| Paper path                     | Rear and Top Rear in, Top out |
| Copy capability                | Min. 1+3 copies               |
| Input Data Buffer              | 128 KB or higher              |
| Standard Interface             | Parallel, USB 2.0 and Serial  |
| Ribbon Life                    | 3 Million characters          |
| Print Head Life                | 400 Mn strokes / pin          |
| MTBF                           | 10000 PoH                     |
| Acoustic Noise                 | 53 DB                         |
| Operating System support       | Windows and Linux             |
| Model specific Certifications  | BIS                           |
| Compliance                     | RoHS, ISO 9001                |
| Warranty                       | 3 Years OEM onsite warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**VII. Dot Matrix Printer 136 Column:** (Overall estimated cost Rs. 45,000)

| Features                       | Specification                 |
|--------------------------------|-------------------------------|
| Printer type                   | Dot Matrix Printer            |
| Pins                           | 24 pins                       |
| Column                         | 136 column or higher          |
| Print speed in 12 CPI HSD      | 400 CPS or higher             |
| Print speed in 10 CPI HSD      | 340 CPS or higher             |
| Print speed in 10 CPI Draft    | 250 CPS or higher             |
| Built in Barcode fonts         | Yes. 8 built in barcode fonts |
| Built in Indian Language Fonts | YES                           |
| Paper path                     | Rear and Top Rear in, Top out |
| Copy capability                | Min. 1+3 copies               |
| Input Data Buffer              | 128 KB or higher              |
| Standard Interface             | Parallel, USB 2.0 and Serial  |

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|-------------------------------|-----------------------------|
| Ribbon Life                   | 3 Million characters        |
| Print Head Life               | 400 Mn strokes / pin        |
| MTBF                          | 10000 PoH                   |
| Acoustic Noise                | 53 DB                       |
| Operating System support      | Windows and Linux           |
| Model specific Certifications | BIS                         |
| Compliance                    | RoHS, ISO 9001              |
| Warranty                      | 3 Years OEM onsite warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**VIII. Barcode Printer (estimated cost Rs. 12,000)**

| Parameter           | Generic 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<br>External-200 mm OD  |
| Memory              | Flash -2MB, DRAM-6 MB  |
| Interface           | RS-232/ Centronics Parallel Port, USB  |
| Bar Code            | 1D Barcodes: Min.12standard barcodes<br>22D Barcodes: Min. PDF-417, Maxi code, Data matrix |
| Media Type          | Roll-fed, Fan fold, Continuous, Die cut, black mark, ticket, tag                           |
| Media Width         | 1" to 4.1" 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Category 7. Multifunctional Printer**
**I. Entry Level Configuration**
**A. Laser – 18 PPM (estimated cost Rs.16,000)**

| Parameter             | Generic Technical Specification |
|-----------------------|---------------------------------|
| Functions             | Print, Scan, Copy               |
| Printing Technology   | Laser                           |
| Print Speed (Minimum) | 18 PPM (Mono) or higher         |
| Paper Size            | A4 or above                     |

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|--|--|
| 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                  |
| Model specific Model specific Certifications | BIS  |
| Compliance                                   | RoHS, ISO 9001, ISO 9001                   |
| Warranty                                     | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. InkTank – 18 PPM (estimated cost Rs.16,000)**

| Parameter                 | Generic Technical Specification      |
|---------------------------|--------------------------------------|
| Functions                 | Print, Scan, Copy                    |
| Printing Technology       | InkTank (Bottle/ Pouch Based)        |
| Print Speed (Minimum)     | 18 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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|  |  |
|--|--|
| Model specific Model specific Certifications   | BIS  |
| Compliance   | RoHS, ISO 9001, ISO 9001                   |
| Warranty   | 3 years comprehensive on-site OEM warranty |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**C. Laser – 20 PPM** (estimated cost Rs.17,000)

| Parameter                     | Generic 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. InkTank – 20 PPM** (estimated cost Rs.17,000)

| Parameter             | Generic Technical Specification |
|-----------------------|---------------------------------|
| Functions             | Print, Scan, Copy               |
| Printing Technology   | InkTank (Bottle/ Pouch Based)   |
| 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                             |

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|                               |  |
|-------------------------------|--|
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic 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/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

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

| <b>Parameter</b>              | <b>Generic Technical Specification</b>     |
|-------------------------------|--|
| Functions                     | Print, Scan, Copy                          |
| Printing Technology           | InkTank (Bottle/ Pouch Based)              |
| 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/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| <b>Parameter</b>      | <b>Generic Technical Specification</b> |
|-----------------------|--|
| Functions             | Print, Scan, Copy                      |
| Printing Technology   | Laser                                  |
| Print Speed (Minimum) | 30 PPM (Mono) or higher                |
| Paper Size            | A4 or above                            |
| Print Resolution      | 600 x 600 dpi or higher                |
| Duplex                | Auto                                   |
| Memory                | 128 MB or higher                       |
| Display               | Yes                                    |
| Connectivity          | USB, Ethernet, Wi-Fi                   |
| Duty Cycle (Monthly)  | 10000 pages or higher                  |
| Copy Speed            | 10 PPM or higher                       |
| Copy Resolution       | 600 x 600 dpi or higher                |
| Scan File Format      | PDF, JPEG etc.                         |
| Scan Resolution       | 600 x 600 dpi or higher                |

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|-------------------------------|--|
| Scan Type                     | FLATBED with ADF/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Functions                     | Print, Scan, Copy                          |
| Printing Technology           | InkTank (Bottle/ Pouch Based)              |
| 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/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter             | Generic Technical Specification |
|-----------------------|---------------------------------|
| Functions             | Print, Scan, Copy               |
| Printing Technology   | Laser                           |
| Print Speed (Minimum) | 35 PPM (Mono) or higher         |

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|-------------------------------|--|
| Paper Size                    | A4, Legal or above                         |
| Print Resolution              | 600 x 600 dpi or higher                    |
| Duplex                        | Auto                                       |
| Memory                        | 256 MB or higher                           |
| Display                       | Yes  |
| Connectivity                  | USB, Ethernet, Wi-Fi                       |
| Duty Cycle (Monthly)          | 20000 pages or higher                      |
| Copy Speed                    | 10 PPM or higher                           |
| Copy Resolution               | 600 x 600 dpi or higher                    |
| Scan File Format              | PDF, JPEG etc.                             |
| Scan Resolution               | 600 x 600 dpi or higher                    |
| Scan Type                     | FLATBED with ADF/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                 | Generic Technical Specification      |
|---------------------------|--------------------------------------|
| Functions                 | Print, Scan, Copy                    |
| Printing Technology       | InkTank (Bottle/ Pouch Based)        |
| 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/ DADF or better     |
| Input paper tray capacity | 200 pages or higher                  |
| Compatible OS             | Windows and Linux                    |
| Cables/ Accessories       | All the required cables, accessories |

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| Software Media                | Driver & Utility software                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. A3 Laser – 20 PPM:** (estimated cost Rs. 50,000)

| Parameter                                  | Generic Technical Specification           |
|--|---|
| Functions                                  | Print , Scan, Copy                        |
| Printing Method                            | Laser Mono                                |
| Paper size support                         | A3 or higher                              |
| Print Speed                                | 20 PPM for A4<br>10 PPM for A3            |
| Print Resolution                           | 600 x 600 dpi or higher                   |
| Auto Duplex Print (For A3 and A4 for both) | Yes                                       |
| Memory                                     | 128 MB or higher                          |
| Connectivity                               | USB/ Ethernet                             |
| Duty Cycle (Monthly)                       | 5000 pages or higher                      |
| Copy Speed                                 | 20 PPM or higher                          |
| Copy Resolution                            | 600 x 600 dpi or higher                   |
| Scan File Format                           | PDF, JPEG etc.                            |
| Scan Type                                  | RADF/ DADF/ SPDF or better                |
| ADF paper tray capacity                    | 40 pages or higher                        |
| Scan Resolution                            | 600 x 600 dpi or higher                   |
| Input paper tray capacity                  | Minimum 100 or higher pages               |
| Display                                    | Yes                                       |
| Compatible operating systems               | Windows & Linux                           |
| Cables / Accessories                       | All the required cables, accessories      |
| Software Media                             | Driver & Utility software                 |
| Model specific Certifications              | BIS                                       |
| Compliance                                 | ROHS, ISO 9001                            |
| Warranty                                   | 3 years comprehensive onsite OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. A3 Inktank – 20 PPM:** (estimated cost Rs. 50,000)

| Parameters         | Generic Technical Specification    |
|--------------------|------------------------------------|
| Functions          | Print , Scan, Copy                 |
| Printing Mathod    | Inktank (Bottle/ Pouch Based) Mono |
| Paper size support | A3 or higher                       |
| Print Speed        | 20 PPM for A4<br>10 PPM for A3     |
| Print Resolution   | 600 x 600 dpi or higher            |

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|  |   |
|--|---|
| Auto Duplex Print (For A3 and A4 for both) | Yes                                       |
| Memory                                     | 128 MB or higher                          |
| Connectivity                               | USB/ Ethernet                             |
| Duty Cycle (Monthly)                       | 5000 pages or higher                      |
| Copy Speed                                 | 20 PPM or Higher                          |
| Copy Resolution                            | 600 x 600 dpi or higher                   |
| Scan File Format                           | PDF, JPEG etc.                            |
| Scan Type                                  | RADF/ DADF/ SPDF or better                |
| ADF paper tray capacity                    | 40 pages or higher                        |
| Scan Resolution                            | 600 x 600 dpi or higher                   |
| Input paper tray capacity                  | Minimum 100 or higher pages               |
| Display                                    | Yes                                       |
| Compatible operating systems               | Windows & Linux                           |
| Cables / Accessories                       | All the required cables, accessories      |
| Software Media                             | Driver & Utility software                 |
| Model specific Certifications              | BIS                                       |
| Compliance                                 | ROHS, ISO 9001                            |
| Warranty                                   | 3 years comprehensive onsite OEM warranty |

**Note:**  
Any deviation/ alteration/ modification in the specification will not be considered valid.

#### IV. MFP Color

##### A. Color 20 PPM InkTank : (estimated cost Rs. 45,000)

| Parameter                 | Generic Technical Specification  |
|---------------------------|----------------------------------|
| Functions                 | Print, Scan, Copy                |
| Printing Technology       | InkTank (Bottle/ Pouch Based)    |
| Print Speed (Mono)        | 20 PPM or higher                 |
| Print Speed (Color)       | 20 PPM 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)      | 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/ DADF or better |
| Input paper tray capacity | 150 pages or higher              |
| Compatible OS             | Windows and Linux                |

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|-------------------------------|--|
| Cables/ Accessories           | All the required cables, accessories       |
| Software Media                | Driver & Utility software                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. Color 20 PPM Laser :** (estimated cost Rs. 45,000)

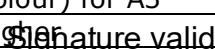
| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Functions                     | Print, Scan, Copy                          |
| Printing Technology           | Laser                                      |
| Print Speed (Mono)            | 20 PPM or higher                           |
| Print Speed (Color)           | 20 PPM 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)          | 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/ DADF or better           |
| 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                  |
| Model specific Certifications | BIS  |
| Compliance                    | RoHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on-site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. A3 Inktank – 20 PPM:** (estimated cost Rs. 55,000)

| Parameters         | Generic Technical Specification                                |
|--------------------|--|
| Functions          | Print , Scan, Copy   |
| Printing Mathod    | Inktank (Bottle/ Pouch Based) Colour & Mono both               |
| Paper size support | A3 or higher   |
| Print Speed        | 20 PPM (Mono & Colour) for A4<br>10 PPM (Mono & Colour) for A3 |
| Print Resolution   | 600 x 600 dpi or higher  |



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|--|---|
| Auto Duplex Print (For A3 and A4 for both) | Yes                                       |
| Memory                                     | 128 MB or higher                          |
| Connectivity                               | USB, Ethernet, Wi-Fi                      |
| Duty Cycle (Monthly)                       | 5000 pages or higher                      |
| Copy Speed                                 | 20 PPM or Higher for mono and colour both |
| Copy Resolution                            | 600 x 600 dpi or higher                   |
| Scan File Format                           | PDF, JPEG etc.                            |
| Scan Type                                  | RADF/ DADF/ SPDF or better                |
| ADF paper tray capacity                    | 40 pages or higher                        |
| Scan Resolution                            | 600 x 600 dpi or higher                   |
| Input paper tray capacity                  | Minimum 100 or higher pages               |
| Display                                    | Yes                                       |
| Compatible operating systems               | Windows & Linux                           |
| Cables / Accessories                       | All the required cables, accessories      |
| Software Media                             | Driver & Utility software                 |
| Model specific Certifications              | BIS                                       |
| Compliance                                 | ROHS, ISO 9001                            |
| Warranty                                   | 3 years comprehensive onsite OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. A3 Laser – 20 PPM:** (estimated cost Rs. 55,000)

| Parameter                                  | Generic Technical Specification                                |
|--|--|
| Functions                                  | Print , Scan, Copy   |
| Printing Method                            | Laser Colour & Mono both                                       |
| Paper size support                         | A3 or higher   |
| Print Speed                                | 20 PPM (Mono & Colour) for A4<br>10 PPM (Mono & Colour) for A3 |
| Print Resolution                           | 600 x 600 dpi or higher  |
| Auto Duplex Print (For A3 and A4 for both) | Yes  |
| Memory                                     | 128 MB or higher   |
| Connectivity                               | USB, Ethernet, Wi-Fi   |
| Duty Cycle (Monthly)                       | 5000 pages or higher   |
| Copy Speed                                 | 20 PPM or Higher for mono and colour both                      |
| Copy Resolution                            | 600 x 600 dpi or higher  |
| Scan File Format                           | PDF, JPEG etc.   |
| Scan Type                                  | RADF/ DADF/ SPDF or better                                     |
| ADF paper tray capacity                    | 40 pages or higher   |
| Scan Resolution                            | 600 x 600 dpi or higher  |
| Input paper tray capacity                  | Minimum 100 or higher pages                                    |
| Display                                    | Yes  |
| Compatible operating systems               | Windows & Linux  |
| Cables / Accessories                       | All the required cables, accessories                           |

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|-------------------------------|---|
| Software Media                | Driver & Utility software                 |
| Model specific Certifications | BIS                                       |
| Compliance                    | ROHS, ISO 9001                            |
| Warranty                      | 3 years comprehensive onsite OEM warranty |

**Note:**  
 Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic Technical Specification            |
|------------------------------|--|
| Type                         | Flatbed                                    |
| Print Resolution             | 600 x 600 dpi                              |
| Light source                 | RGB LED                                    |
| Paper size support           | A4   |
| Interface                    | USB  |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001                             |
| Warranty                     | 3 years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic 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                        |
| Model specific Certification  | BIS  |
| Compliance                    | ROHS, ISO 9001                             |
| Warranty                      | 3 years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameters          | Generic 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      |

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|                              |   |
|------------------------------|---|
| 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 |
| Model specific Certification | BIS   |
| Compliance                   | RoHS, ISO 9001  |
| Warranty                     | 3 years comprehensive on-site OEM warranty                                      |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic Technical Specifications  |
|------------------------------|---|
| Paper size Support           | A3, A4, Legal   |
| Scanning Resolution          | minimum 600*600 dpi or higher   |
| Interface                    | USB 2.0   |
| Sensor                       | Contact Image Sensor (CIS)/ Charge Coupled Device (CCD)   |
| Scan Format                  | PDF, PDF/ A   |
| Light Source                 | LED   |
| Operating System Support     | Windows/ Linux  |
| Bundled Software Solutions   | Industry standard interfaces for connecting software e.g. Windows ISIS/ TWAIN and Mac TWAIN drivers |
| Accessories                  | USB Cable , AC adaptor , Power Cable, Setup guide document, Installation software                   |
| Model specific Certification | BIS   |
| Compliance                   | ROHS, ISO 9001  |
| Warranty                     | 3 years comprehensive on-site OEM warranty  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic 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                               |
| Model specific Certifications | BIS                                    |
| Compliance                    | RoHS, ISO 9001                         |

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|--|--|
| 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   |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**Category 9. Tablet**
**I. Tablet (10 inch-3GB – 32GB) (estimated cost Rs. 12,000 )**

| Parameter  | Generic 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  |
| Model specific Certification                     | BIS   |
| Compliance                                       | ROHS, ISO 9001  |
| Additional Accessories                           | USB Cable & Charger   |
| Tablet Cover                                     | Compatible Smart cover for TAB, cover should have stand to hold the TAB |
| Warranty   | 3 years comprehensive OEM warranty including battery                    |
| Declaration on Land Border Clause                | Declaration from OEM and Bidder   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**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       |

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|                              |   |
|------------------------------|---|
| 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   |
| Model specific Certification | BIS   |
| Compliance                   | ROHS, ISO 9001  |
| Warranty                     | 3 years comprehensive OEM warranty including battery                      |
| Accessories                  | USB cable and charger   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter  | Generic 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                                     |
| Rear Camera                                      | 8 MP or higher                                       |
| Front Camera                                     | 2 MP or higher                                       |
| Battery Capacity (Min.)                          | 5000 mAh or higher                                   |
| Model specific Certification                     | BIS  |
| Compliance                                       | ROHS, ISO 9001                                       |
| Additional Accessories                           | USB Cable & Charger                                  |
| Warranty   | 3 years comprehensive OEM warranty including battery |

**Note:**

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**Category 10. UPS –**
**I. 1KVA** (estimated cost Rs. 7,500)

| Parameter                     | Generic 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   |
| Model specific Certifications | BIS  |
| Compliance                    | ISO 9001   |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                     | Generic Technical Specifications   |
|-------------------------------|--|
| UPS Capacity                  | 2 KVA  |
| Mode                          | Line interactive   |
| Protection                    | Full Protection  |
| voltage                       | 230V/ 50Hz   |
| Range                         | 170V-270V  |
| Power factor                  | 0.6 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   |
| Model specific Certifications | BIS  |
| Compliance                    | ISO 9001   |
| 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   |

**Note:**

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

| Parameter                     | Generic 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  |
| Indicator/ Display            | 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 with rack/ tray  |
| Alarm                         | ON Battery/ Fault Over Load, Low Battery   |
| Model specific Certifications | BIS  |
| Compliance                    | ROHS (Only UPS), ISO 9001  |
| 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   |
| <b>Note:</b>                  | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

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

| Parameter                     | Generic Technical Specifications   |
|-------------------------------|--|
| UPS Capacity                  | 2 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                  | 672 VAH for 30 Minutes back upon 5 PC  |
| Indicator/ Display            | 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 with rack/ tray  |
| Alarm                         | ON Battery/ Fault Over Load, Low Battery   |
| Model specific Certifications | BIS  |
| Compliance                    | ROHS (Only UPS), ISO 9001  |
| 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   |
| <b>Note:</b>                  | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

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

| Parameter  | Generic Technical Specification  |
|--|--|
| Rated Capacity   | 3 KVA  |
| Mode   | Online   |
| Input Voltage Range (Load <50%)                                    | 118~280V ( $\pm$ 5V)   |
| Input Voltage Range (Load >50%)                                    | 170~280V ( $\pm$ 5V)   |
| Frequency  | 50 Hz $\pm$ 0.1 Hz   |
| Phase  | Single Phase with Ground   |
| Power Factor   | $\geq$ 0.8   |
| 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 $\pm$ 0.1 Hz or 60Hz $\pm$ 0.1 Hz  |
| Thd (Linear Load)  | $\leq$ 2%  |
| Thd (Non-Linear Load)  | $\leq$ 5%  |
| Overload   | <p><math>&gt;110\%</math> for 1 Min</p> <p><math>&gt;150\%</math> instant turn to Bypass</p>   |
| 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<br>(AC Mode To Battery Mode)<br>(Inverter To Bypass) | <p>ZERO</p> <p><math>&lt;4</math> ms</p>   |
| 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)   |
| Model specific Certifications                                      | BIS  |
| Compliance   | ROHS (Only UPS), ISO 9001  |
| 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   |

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

| Item                             | Generic 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                     | $\geq 0.9$   |
| Voltage Regulation               | $\leq \pm 2\%$   |
| Inverter Efficiency              | $\geq 93\%$  |
| Overload Capability              | 110% for $\geq 10$ Minutes   |
| Total Harmonic distortion (THDI) | <5% at Full load   |
| Transient response               | Less than $\pm 10\%$ 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<br>Battery Charging Voltage & Current shall be adjustable<br>Line & load Regulation: $\leq \pm 2\%$<br>Output Ripple: $\leq 3\%$ |
| 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.<br>Build in display for displaying all requisite UPS & battery parameters for both input & output         |
| Model specific Certifications    | BIS  |
| Compliance                       | ROHS (Only UPS), ISO 9001  |
| 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   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter            | Generic 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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|                               |   |
|-------------------------------|---|
| Contrast Ration (Typical)     | 1200:01 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)               | 2 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 13.0 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 3.0 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 / Manual Light & Brightness Control, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC |
| Model specific Certifications | BIS, UL   |
| Compliance                    | ROHS, ISO 9001  |
| 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  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                 | Generic 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) | 1200:01 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                 |

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|                               |   |
|-------------------------------|---|
| Input (Minimum)               | 2 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 13.0 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 3.0 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 / Manual Light & Brightness Control, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC |
| Model specific Certifications | BIS, UL   |
| Compliance                    | ROHS, ISO 9001  |
| 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  |
| <b>Note:</b>                  | Any deviation/ alteration/ modification in the specification will not be considered valid.  |

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

| Parameter                 | Generic 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) | 1200:01 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)           | 2 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  |

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|                               |   |
|-------------------------------|---|
| Platform                      | Android 13.0 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 3.0 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 / Manual Light & Brightness Control, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC |
| Model specific Certifications | BIS, UL   |
| Compliance                    | ROHS, ISO 9001  |
| 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  |
| <b>Note:</b>                  | Any deviation/ alteration/ modification in the specification will not be considered valid.  |

## Category 12. TV

### 1) LED 32"

**A. LED 32"** with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 20,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 32"  |
| Resolution                   | 1920*1080 (FHD)  |
| Brightness                   | 300 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 60%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |

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| Warranty   | 3 years comprehensive on site OEM warranty |
| <b>Note:</b><br>Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**B. LED 32"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 25,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 32"  |
| Resolution                   | 1920*1080 (FHD)  |
| Brightness                   | 400 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 60%%   |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model Specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**2) LED 43":**

**A. LED 43"** with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 40,000)

| Parameter           | Generic Technical Specification  |
|---------------------|--|
| Size                | 43"  |
| Resolution          | 3840*2160 (4KUHD)  |
| Brightness          | 300 Nits or higher   |
| Panel Technology    | IPS/ VA  |
| Viewing Angle (H/V) | 178°   |
| Display Colors      | 16.7 million   |
| Color Gamut         | 72%  |
| Audio               | Built in Speaker (10W + 10W)   |
| Input               | HDMI 2.0 x 2, USB 2.0x1  |
| Output              | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |

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|                              |  |
|------------------------------|--|
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation         |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty                                     |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. LED 43"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 45,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 43"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 400 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model Specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. LED 43"** with 24/7 duty cycle & 500 Nits or higher brightness: (estimated cost Rs. 50,000)

| Parameter           | Generic Technical Specification |
|---------------------|---------------------------------|
| Size                | 43"                             |
| Resolution          | 3840*2160 (4KUHD)               |
| Brightness          | 500 Nits or higher              |
| Panel Technology    | IPS/ VA                         |
| Viewing Angle (H/V) | 178°                            |

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|------------------------------|--|
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 24/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid. |

## 3) LED 48":

A. LED 48" with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 42,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 48"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 300 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid. |

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**B. LED 48"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 45,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 48"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 400 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model Specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. LED 48"** with 24/7 duty cycle & 500 Nits or higher brightness: (estimated cost Rs. 50,000)

| Parameter           | Generic Technical Specification  |
|---------------------|--|
| Size                | 48"  |
| Resolution          | 3840*2160 (4KUHD)  |
| Brightness          | 500 Nits or higher   |
| Panel Technology    | IPS/ VA  |
| Viewing Angle (H/V) | 178°   |
| Display Colors      | 16.7 million   |
| Color Gamut         | 72%  |
| Audio               | Built in Speaker (10W + 10W)   |
| Input               | HDMI 2.0 x 2, USB 2.0x1  |
| Output              | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle          | 24/7 Hrs.  |
| Special Features    | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |

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|                              |  |
|------------------------------|--|
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid. |

**4) LED 50":**

**A. LED 50"** with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 45,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 50"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 300 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |
| <b>Note:</b>                 | Any deviation/ alteration/ modification in the specification will not be considered valid. |

**B. LED 50"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 50,000)

| Parameter  | Generic Technical Specification |
|------------|---------------------------------|
| Size       | 50"                             |
| Resolution | 3840*2160 (4KUHD)               |
| Brightness | 400 Nits or higher              |

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|                              |  |
|------------------------------|--|
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model Specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. LED 50"** with 24/7 duty cycle & 500 Nits or higher brightness: (estimated cost Rs. 60,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 50"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 500 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play |
| Duty Cycle                   | 24/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation         |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty                                     |

**Note:**

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**5) LED 55":**

**A. LED 55"** with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 55,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 55"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 300 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. LED 55"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 60,000)

| Parameter           | Generic Technical Specification  |
|---------------------|--|
| Size                | 55"  |
| Resolution          | 3840*2160 (4KUHD)  |
| Brightness          | 400 Nits or higher   |
| Panel Technology    | IPS/ VA  |
| Viewing Angle (H/V) | 178°   |
| Display Colors      | 16.7 million   |
| Color Gamut         | 72%  |
| Audio               | Built in Speaker (10W + 10W)   |
| Input               | HDMI 2.0 x 2, USB 2.0x1  |
| Output              | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle          | 16/7 Hrs.  |
| Special Features    | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control    | RJ45   |

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| Mounting   | Wall Mount, all required accessories has to be supply for installation |
| Model Specific Certification   | BIS, UL  |
| Compliance   | ROHS, ISO 9001   |
| Warranty   | 3 years comprehensive on site OEM warranty                             |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**C. LED 55"** with 24/7 duty cycle & 500 Nits or higher brightness: (estimated cost Rs. 70,000)

| Parameter  | Generic Technical Specification  |
|--|--|
| Size   | 55"  |
| Resolution   | 3840*2160 (4KUHD)  |
| Brightness   | 500 Nits or higher   |
| Panel Technology   | IPS/ VA  |
| Viewing Angle (H/V)  | 178°   |
| Display Colors   | 16.7 million   |
| Color Gamut  | 72%  |
| Audio  | Built in Speaker (10W + 10W)   |
| Input  | HDMI 2.0 x 2, USB 2.0x1  |
| Output   | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle   | 24/7 Hrs.  |
| Special Features   | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control   | RJ45   |
| Mounting   | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification   | BIS, UL  |
| Compliance   | ROHS, ISO 9001   |
| Warranty   | 3 years comprehensive on site OEM warranty   |
| <b>Note:</b>   |  |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |  |

**6) LED 65":**

**A. LED 65"** with 16/7 duty cycle & 300 Nits or higher brightness: (estimated cost Rs. 70,000)

| Parameter           | Generic Technical Specification |
|---------------------|---------------------------------|
| Size                | 65"                             |
| Resolution          | 3840*2160 (4KUHD)               |
| Brightness          | 300 Nits or higher              |
| Panel Technology    | IPS/ VA                         |
| Viewing Angle (H/V) | 178°                            |
| Display Colors      | 16.7 million                    |
| Color Gamut         | 72%                             |

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|                              |  |
|------------------------------|--|
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. LED 65"** with 16/7 duty cycle & 400 Nits or higher brightness: (estimated cost Rs. 80,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Size                         | 65"  |
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 400 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 16/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model Specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. LED 65"** with 24/7 duty cycle & 500 Nits or higher brightness: (estimated cost Rs. 95,000)

| Parameter | Generic Technical Specification |
|-----------|---------------------------------|
| Size      | 65"                             |

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|                              |  |
|------------------------------|--|
| Resolution                   | 3840*2160 (4KUHD)  |
| Brightness                   | 500 Nits or higher   |
| Panel Technology             | IPS/ VA  |
| Viewing Angle (H/V)          | 178°   |
| Display Colors               | 16.7 million   |
| Color Gamut                  | 72%  |
| Audio                        | Built in Speaker (10W + 10W)   |
| Input                        | HDMI 2.0 x 2, USB 2.0x1  |
| Output                       | Line Level Audio Out-3.5MM Jack/ Bluetooth Audio Connectivity/ Digital out Audio (optical) |
| Duty Cycle                   | 24/7 Hrs.  |
| Special Features             | Built-in Signage Software from same OEM, Smart Share, Web browser, Plug & Play             |
| External Control             | RJ45   |
| Mounting                     | Wall Mount, all required accessories has to be supply for installation                     |
| Model specific Certification | BIS, UL  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 years comprehensive on site OEM warranty   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic 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, Integrated Privacy shutter |
| OS Support                   | Windows, Mac, Linux and Chromebook  |
| 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   |
| Model specific Certification | BIS, UL   |
| Compliance                   | RoHS, ISO 9001  |
| Warranty                     | 3 years comprehensive on-site warranty.   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| <b>Parameter</b>           | <b>Generic Technical Specification</b>   |
|----------------------------|--|
| Display                    | Interactive Panel (23.8" active diagonal size)/ 21"/ 19" (As per requirement),<br>Resolution 1920 X 1080, 10 Points Multi-touches<br>Free stylus with eraser switch, Video I/O port, four shortcut keys, 11-73-degree adjustable tilt stand with accessories (supplied with Toughened Glass and Anti-Shock Mount)  |
| Integrated Controller      | <p>Touch panel control minimum 7" or better (must be fitted in Podium)</p> <ul style="list-style-type: none"> <li>• Min 1 VGA Input, Min 1 VGA Output / HDMI Out / USB Type C port</li> <li>• Min 2 Screen control port</li> <li>• Min 2 RS 232 Port IR receiver for IR Control</li> <li>• Min 2 Hybrid Relay Ports</li> <li>• Min 1 LAN Port</li> </ul> <p>Squelch Control and frequency from 100 Hz to 15000 Hz (impedance less than 280 ohms)</p>   |
| Temperature controlled fan | Integrated Temperature controlled Cooling fans to help regulate the right temperature for the podium   |
| Mobility                   | 4 Wheels or more as required   |
| Rack Storage               | 19U or more (to keep tablet/writing panel, CPU, video mixer, DSP, Amplifier, switch &Wi-Fi modem)  |
| Extra Ports on the podium  | Power outlet, USB, LAN, RGB, 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"> <li>• Movement of Screens, Projector, LCD Display, and Volume adjustment shall be controlled through the controller</li> <li>• Video Output can be switched from Podium Desktop and Writing panel through controller</li> <li>• Video Output can be switched from current location to remote location from the desktop/ laptop/ controller</li> <li>• Video Output of tablet/ camera of the class can be viewed at the remote site</li> <li>• Synchronization of student interaction mic with mixers/ DSP for every participating class</li> <li>• Synchronization of different speakers / mic, video equipment and amplifiers in all the classes</li> <li>• Fixed inside the podium/dias resolution : 800X480</li> </ul> |
| <b>Note:</b>               | Any deviation/ alteration/ modification in the specification will not be considered valid.   |

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**Category 15. Camera**
**1) PTZ Camera 18X:** (estimated cost of Rs. 1,25,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Standard                     | OVNIIF Profile S Compliant   |
| White Balance                | The camera should have an Option of Auto or Manual White Balance.  |
| Gain Control                 | The camera should have an auto Gain Control  |
| Picture controls             | The camera should have picture control for brightness, color, saturation, contrast, sharpness, and gamma   |
| S/N ratio                    | The camera should have a S/N Ratio of >50db.   |
| Focus                        | The camera Lens should have an Auto Focus.   |
| Sensor                       | The camera should have 1/2.8" HD CMOS  |
| Optical Zoom                 | The camera should have a 18 X or more Optical Zoom.  |
| Video Output                 | The camera should have a standard video output though HDMI/ USB/ IP (as per requirement)   |
| Signal Support               | The camera should support signals: 1080P@30, 1080P@25, 1080i@60, 1080i@50, 720P@60, 720P@50, 720P@30, 720P@25  |
| Pre-sets                     | The camera should have Up to 16 Position Pre-sets and Min. 10 accessible from IR remote.   |
| Viewing Angle                | The camera should have 6° (telephoto), 60° (wide-angle) or better  |
| Pan Range                    | The camera should have Pan movement range of - 170 degrees to + 170 degrees or better  |
| Tilt Range                   | The camera should have Tilt movement range of - 30 degrees to + 90 degrees or better   |
| Remote Control               | The camera should be supplied with IR remote control as an included accessory, Min. 10 pre-set should be available & should support VISCA, Pelco-D, and Pelco-P camera control protocols |
| Accessories                  | All required accessories for installation of camera to be provided like camera bracket, connector kit screws etc.  |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter     | Generic 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                       |

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|                              |   |
|------------------------------|---|
| Signal Support               | The camera should support signals:<br>1080P@30,1080P@25, 1080i@60,1080i@50,<br>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                                     |
| Model specific Certification | BIS   |
| Compliance                   | ROHS, ISO 9001  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic Technical Specification   |
|------------------------------|---|
| Sensor                       | 1/2.8" 2.3MP  |
| White Balance                | Auto or Manual White Balance.   |
| Gain Control                 | auto Gain Control   |
| Back Light                   | selectable Back-light compensation  |
| S/N ratio                    | S/N Ratio of >50db.   |
| Focus                        | Auto Focus.   |
| Iris                         | Auto/Manual Iris  |
| Video Output                 | HDMI/ USB/ IP (as per requirement)  |
| Optical Zoom                 | 20X or Higher   |
| Digital Zoom                 | 12X or higher   |
| Signal Support               | 1080P@30,1080P@25, 1080i@60,1080i@50, 720P@60,720P@50,<br>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 |
| Model specific Certification | BIS   |
| Compliance                   | ROHS, ISO 9001  |

**Note:**

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

| Parameter  | Generic 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/  | Auto / Manual   |
| White Balance  |   |
| 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   |
| Model specific Certification   | BIS   |
| Compliance   | ROHS, ISO 9001  |
| <b>Note:</b>   | Any deviation/ alteration/ modification in the specification will not be considered valid.        |

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

| Parameter          | Generic 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                          |

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| Model specific Certification   | BIS            |
| Compliance   | ROHS, ISO 9001 |
| <b>Note:</b>   |                |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |                |

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

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Video In                     | HDMI type-A/ USB x 4 (as per requirement)  |
| Video Out                    | HDMI type-A PGM/ USB x 1,<br>HDMI type-A Multiview/ USB x 1<br>USB 3.0 type C x 1 (Streaming on PC)<br>Assignable HDMI 1~4/ USB, PGM, Clean PGM, PVW, Color bar, Multiview |
| PC Control Port              | LAN x 1  |
| Media Library                | USB type-A x 1(USB disk port for image import and firmware upgrade)  |
| Transitions                  | T-Bar/AUTO/ CUT  |
| Effects                      | Wipe (9x2 patterns)/ Mix/ DIP/ Pattern/ Still(freeze)/ MUTE/ FTB   |
| Audio Mixer                  | USB/ HDMI x 4 and MIC/ Line level x 2;<br>Audio delay: 0-500ms   |
| Generators                   | Pattern generator x 1<br>Colour generators x 2   |
| Accessories                  | Power supply (12V2A) x 1; USB cable (type A-C) x 1; Tally connector (DB-15) x 1  |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Category 17. Video Graphic Processor**

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

| Parameter                 | Generic 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   |

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|--|----------------|
| Expansion Slots:   | 3-Slot (61mm)  |
| Model specific Certification   | BIS            |
| Compliance   | ROHS, ISO 9001 |
| <b>Note:</b>   |                |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |                |

**Category 18. Wall / Ceiling Speakers**

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

| Parameter  | Generic Technical Specification   |
|--|---|
| Effective frequency range  | 65 Hz to 20 kHz   |
| Rated noise power / voltage  | 15 watts / 15.5 volts (rms) or 18 watts / 15.5 volts (rms) (as per requirement) |
| Broad-band sensitivity   | 89 dB SPL   |
| Coverage angle (-6 dB)   | 110° (500 Hz to 5 kHz)  |
| Maximum continuous SPL   | 104 dB  |
| Maximum peak SPL   | 110 dB  |
| Rated impedance  | 8 ohms  |
| Woofer   | Woofer size to be 6" or more HD Type  |
| Frequency  | The Speaker should have a frequency response of 80 Hz to 17,000 Hz              |
| Baffle material  | Painted ABS polymer/ Powder coated steel/ Galvanized steel                      |
| Grille material  | Painted ABS polymer/ Powder coated steel/ Galvanized steel                      |
| Back can material  | Painted ABS polymer/ Powder coated steel/ Galvanized steel                      |
| Model specific Certification   | BIS   |
| Compliance   | ROHS, ISO 9001  |
| <b>Note:</b>   |   |
| Any deviation/ alteration/ modification in the specification will not be considered valid. |   |

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

| Parameter  | Generic 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  |

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|------------------------------|--|
| 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  |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001   |

**Note:**  
 Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic 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"> <li>• 1 No Gooseneck Mic</li> <li>• 2 No Handheld Mic</li> <li>• 1 No Lapel Mic</li> <li>• 1 inbuilt or external USB Audio Port to allow digital connection between DSP and the PC</li> <li>• 01 Laptop in (Preferably USB)</li> </ul> |
| Echo Cancellation            | Digital Signal Processor with an Acoustic Echo Cancellation of up to 60 dB would be required or better   |
| Noise Cancellation           | The Digital Signal Processor should perform Noise Cancellation of up to 20 dB for the podium microphone, Wireless Lapel Microphone and Handheld Microphone   |
| Environment Noise            | The Digital Signal Processor should suppress residual Echo to the Environment Noise Level to prevent Artificial ducking of signal  |
| Equalization                 | The Digital Signal Processor should have Power Level Equalization  |
| Convergence                  | Convergence during full duplex   |
| Control                      | Should have RS232/ Ethernet for control through third party Control system.  |
| Frequency Response           | 20 Hz to 20 KHz  |
| Dynamic Range                | 100 dB or better.  |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001   |

**Note:**  
 Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter           | Generic Technical Specification |
|---------------------|---------------------------------|
| Type                | Wireless Handheld Microphone    |
| Switching Bandwidth | Up to 24 MHz                    |

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|                           |                                   |
|---------------------------|-----------------------------------|
| Signal to noise ratio     | >100dBA or better                 |
| Total Harmonic Distortion | <0.9%                             |
| Transmitter sync          | 2.4GHz/Ultra High Frequency (UHF) |
| Frequency Response        | 80Hz to 14KHz or better           |
| Sensitivity               | < 3 µV at 52 dB(A)                |
| Functionality             | Mute/unmute button                |
| Operating time            | 10 hours or better                |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**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       | >100dBA or better                 |
| Total Harmonic Distortion   | <0.9%                             |
| Transmitter sync            | 2.4GHz/Ultra High Frequency (UHF) |
| Frequency Response          | 50 Hz to 16KHz or better          |
| Sensitivity                 | < 3 µV at 52 dB(A)                |
| Pre-polarized Polar Pattern | Omni-directional or better        |
| Operating time              | 10 hours or better                |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter          | Generic 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 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  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter          | Generic Technical Specification                       |
|--------------------|---|
| Technology         | 3 LCD/ DLP  |
| Projection Method  | Front & Rear Both                                     |
| Minimum Resolution | XGA (1024 x 268)/ WXGA (1366 x 768) (as per required) |

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

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                    | Generic 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.                      |
| Model specific Certification | BIS  |
| Compliance                   | ROHS, ISO 9001   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter                   | Generic Technical Specification  |
|-----------------------------|--|
| Type                        | Over the Head, Plug & Play   |
| Noise Cancelling microphone | Yes  |
| Connection Type             | Single/ Double 3.5mm Jack/ USB-A/ USB-C (As per requirement of Department) |
| Impedance                   | 32 Ohms  |
| Frequency Response          | Headphone 20Hz-20K HZ, Microphone 100HZ-16K HZ                             |
| Sensitivity Headphone       | 100 DB+/-3DB   |
| Compliance                  | ROHS, ISO 9001   |
| Warranty                    | 3 Years comprehensive on site OEM warranty                                 |

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**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  |
| Platen Area                  | Minimum 12.8mm x 17 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  |
| Model specific Certification | BIS, STQC & UIDAI Certified  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 Years comprehensive onsite OEM warranty  |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Category 27. Hard Drive**
**A. SATA 4 TB** (estimated cost of Rs. 10,000)

| Parameter               | Generic 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                   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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

| Parameter               | Generic 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                   |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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**Category 28. Monitor**
**A. Monitor 21": (estimated cost Rs. 7,500)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Screen Size                   | 21"  |
| Panel Type                    | LCD  |
| Resolution                    | FHD or Better                              |
| Input Output Ports            | HDMI x 1, VGA x 1                          |
| Screen Feature                | Antiglare, Flicker Free                    |
| Monitor Stand                 | Table Mount with Tilt Adjustment           |
| Model specific Certifications | BIS  |
| Compliance                    | ROHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. Monitor 24": (estimated cost Rs. 9,000)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Screen Size                   | 24"  |
| Panel Type                    | LCD  |
| Resolution                    | FHD or Better                              |
| Input Output Ports            | HDMI x 1, VGA x 1                          |
| Screen Feature                | Antiglare, Flicker Free                    |
| Monitor Stand                 | Table Mount with Tilt Adjustment           |
| Model specific Certifications | BIS  |
| Compliance                    | ROHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. Monitor 27": (estimated cost Rs. 12,000)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Screen Size                   | 27"  |
| Panel Type                    | LCD  |
| Resolution                    | FHD or Better                              |
| Input Output Ports            | HDMI x 1, VGA x 1                          |
| Screen Feature                | Antiglare, Flicker Free                    |
| Monitor Stand                 | Table Mount with Tilt Adjustment           |
| Model specific Certifications | BIS  |
| Compliance                    | ROHS, ISO 9001                             |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

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**Category 29. Key-Board & Mouse**
**A. Key Board (Wired): (estimated cost Rs. 1,000)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Connectivity                  | USB  |
| Keys                          | 104  |
| Model specific Certifications | BIS  |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**B. Mouse (Wired): (estimated cost Rs. 500)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Type                          | Optical                                    |
| Connectivity                  | USB  |
| Button                        | 2 buttons with scroller                    |
| Model specific Certifications | BIS  |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**C. Key Board (Wire-less): (estimated cost Rs. 1,500)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Connectivity                  | Bluetooth                                  |
| Keys                          | 104  |
| Model specific Certifications | BIS  |
| Cell type                     | AA/ AAA                                    |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**D. Mouse (Wire-less): (estimated cost Rs. 1,000)**

| Parameter                     | Generic Technical Specification            |
|-------------------------------|--|
| Type                          | Optical                                    |
| Connectivity                  | Bluetooth                                  |
| Button                        | 2 buttons with scroller                    |
| Model specific Certifications | BIS  |
| Cell type                     | AA/ AAA                                    |
| Warranty                      | 3 Years comprehensive on site OEM warranty |

**Note:**

Any deviation/ alteration/ modification in the specification will not be considered valid.

**Category 30. CCTV Camera**
**I. Entry Level configuration**
**A. Dome camera: (Estimated cost of Rs. 10,000)**

| Parameter    | Generic Technical Specification |
|--------------|---------------------------------|
| Image Sensor | 1/2.8" 2MP PS CMOS              |

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|                         |  |
|-------------------------|--|
| Effective Pixels        | 1920(H) x 1080(V)  |
| Minimum Illumination    | 0.002 lux@F1.6   |
| Shutter Speed           | Auto/Manual 1/3 s-1/100000s  |
| White Balance           | Auto; natural; Street lamp; Outdoor; Manual; Regional custom   |
| RAM & ROM               | 128 MB   |
| Lens                    | 2.8mm fixed lens (3.6mm optional)  |
| Max. Aperture           | F1.6   |
| Gain Control (AGC)      | Auto/Manual  |
| Lens Mount              | M12  |
| Back Light Compensation | BLC / HLC / WDR (120dB)  |
| S/N Ratio               | 52 dB or above   |
| Video Compression       | H.265; H.264; MJPEG  |
| Resolution              | 1080p (1920 x 1080); 1.3M (1280 x 960); 720p (1280 x 720); D1 (704 x 576/704 x 480); VGA (640 x 480); CIF (352 x 288/352 x 240)  |
| Frame Rate              | Main stream: 1920 x 1080@ (1-25/30 fps)<br>Sub stream: 704 x 576@ (1-25 fps)/704 x 480@ (1-30 fps)   |
| Stream Capability       | 2 Streams or higher  |
| Bit Rate Control        | CBR/VBR  |
| Bit Rate                | H.264: 32 kbps-6144 kbps H.265: 12 kbps-6144 kbps  |
| Noise Reduction         | 3D-NR  |
| Motion detection        | Off / On (4 Zone, Rectangle)   |
| Support: 4 Area         | Privacy Mask, ROI  |
| Audio Compression       | G.711a; G.711Mu; G.726; PCM  |
| Support                 | Built in Mic, SDK and API, Smart Illumination, Mirror Function   |
| Protocol                | IPv4; IPv6; HTTP; TCP; UDP; RTP; RTSP; RTCP; SMTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP, ONVIF (Profile S/Profile G); CGI   |
| IR Distance             | Up to 30 Mtr (IR LED)  |
| IR Control              | Auto/Manual  |
| Day/Night               | Auto (ICR)/Colour/B/W  |
| Ethernet                | RJ-45 (10/100Base-T)   |
| IVS                     | Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)   |
| Smart search            | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos  |
| Alarm Event             | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; audio detection; voltage detection; SMD; security exception |
| Cyber Security          | Video encryption; Firmware encryption; Configuration encryption; Digest; WSSE; Account lockout; Security logs; IP/ MAC filtering;  |

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|                              |  |
|------------------------------|--|
|                              | Generation and importing of X.509 certification; syslog; HTTPS; 802.1x; Trusted boot; Trusted execution; Trusted upgrade |
| Browser                      | IE; Chrome; Firefox  |
| Smart Phone                  | iPhone, iPad, Android Phone  |
| Storage                      | 128 GB or higher inbuilt Micro SD card (support max. 256 GB) (As per STQC compliance)                                    |
| Image Rotation               | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower)  |
| Weatherproof Standard        | IP67 & IK10  |
| Iris Control                 | Fixed  |
| Power Source                 | 12 VDC/PoE   |
| Casing                       | Metal  |
| Model specific certification | STQC, UL/ BIS  |
| Compliance                   | RoHS, ISO 9001   |
| Warranty                     | 3 Year comprehensive on-site OEM warranty  |

**Note:**

- Any deviation/ alteration/ modification in the specification will not be considered valid.
- All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.

**B. Bullet camera:** (Estimated cost of Rs. 12,000)

| Parameter               | Generic Technical Specification   |
|-------------------------|---|
| Image Sensor            | 1/2.8" 2MP PS CMOS Image Sensor (0.9071 centimetres)                                |
| Minimum Illumination    | 0.002 lux@F1.6 (Color, 30 IRE) 0.0002 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on) |
| Effective Pixels        | 1920(H) x 1080(V)   |
| Shutter Speed           | Auto/Manual 1/3 s-1/100000 s  |
| ROM & RAM               | 128 MB  |
| White Balance           | Auto/natural/street lamp/outdoor/manual/regional custom                             |
| Lens                    | 2.8mm fixed lens (3.6mm optional)   |
| Max. Aperture           | F1.6  |
| Close Focus Distance    | 2.8 mm, 3.6 mm  |
| Lens Mount              | M12   |
| Gain Control (AGC)      | Auto/Manual   |
| S/N Ratio               | 52 dB or above  |
| Back Light Compensation | BLC / HLC / WDR (120dB)   |
| Video Compression       | H.265, H.264, MJPEG   |
| Stream Capability       | 2 Streams   |

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|------------------------------|--|
| Frame Rate                   | Main stream: 1920 × 1080@ (1-25/30 fps)<br>Sub stream: 704 × 576@ (1-25 fps)/704 × 480@ (1-30 fps)   |
| Resolution                   | 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)  |
| Bit Rate                     | H.264: 32 kbps-6144 kbps H.265: 12 kbps-6144 kbps  |
| Bit Rate Control             | CBR/VBR  |
| Noise Reduction              | 3D-NR  |
| Motion detection             | OFF/ON (4 areas, rectangular)  |
| Support: 4 areas             | Privacy Mask & ROI   |
| Support                      | Mirror Function, SDK and API   |
| Audio Compression            | G.711a; G.711Mu;   |
| Audio                        | Built-in Mic   |
| IR Distance                  | IR Range of 30 Mtr.  |
| IR Control                   | Auto, Manual   |
| Protocol                     | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP, ONVIF (Profile S/Profile T); CGI; Milestone  |
| Ethernet                     | RJ-45 (10/100Base-T)   |
| Day/Night                    | Auto (ICR)/Colour/B/W  |
| Alarm Event                  | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detecton; video tampering; tripwire; intrusion; SMD; voltage detection; security exception   |
| User/Host                    | 6  |
| Cyber Security               | Configuration encryption; Trusted execution; Digest; Security logs; WSSE; Account lock- out; syslog; Video encryption; 802.1x; IP/MAC filtering; HTTPS; Trusted upgrade; Trusted boot; Generation and importing of X.509 certification |
| Smart Phone                  | iPhone, Android Phone  |
| Storage                      | 128 GB or higher inbuild Micro SD card (support max. 256 GB) (As per STQC compliance)  |
| IVS                          | Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)   |
| Smart search                 | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos  |
| Image Rotation               | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower   |
| Weatherproof Standard        | IP67   |
| Power Source                 | 12 VDC/ PoE  |
| Casing                       | Metal  |
| Model specific certification | STQC, UL/ BIS  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 Year comprehensive on-site OEM warranty  |

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- All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.

**C. Network video recorder:** (Estimated cost of Rs. 14,000)

| Parameter                    | Generic Technical Specification  |
|------------------------------|--|
| Processor                    | Industrial-grade embedded processor  |
| IP Camera Input              | 8 channel  |
| Operating System             | Embedded LINUX   |
| Input/ Output                | 1 Channel Input, 1 Channel Output  |
| User Interface               | Web/operating in local GUI   |
| Video Output                 | 1 VGA/1 HDMI simultaneous video output, maximum resolution 1080P   |
| Compression                  | H.265/ H.264+/H.264  |
| Decoding Capability          | 1-ch@8MP (30FPS) or 1-ch@5MP (30FPS) or 2-ch@4MP (30FPS) or 2-ch@3MP (30FPS) or 4-ch@1080P (30FPS) 8-ch@720P (30FPS)                   |
| Resolution                   | 8MP/5MP/4MP/3MP/1080P/720P/D1/CIF  |
| Network Bandwidth            | 80 Mbps for access, 80 Mbps for storage and 60 Mbps for forwarding   |
| Playback                     | Play, pause, stop, fast forward, fast backward, rewind, play by frame, Full screen, backup (cut/file), partially enlarge, audio on/off |
| Recording Mode               | Priority of record mode: Manual recording, alarm recording, motion detection recording, timed recording                                |
| General Alarm                | Motion detection, privacy masking, video loss, PIR alarm, IPC alarm  |
| Anomaly Alarm                | Front-end device going offline, storage error, full storage, IP conflict, MAC conflict, login lock, network security anomaly           |
| Alarm Linkage                | Video recording, snapshot, log, preset, tour   |
| Hard Disk                    | 1 SATA 2.0, up to 8TB Each   |
| Smart Phone                  | iPhone, iPad, Android Phone  |
| Backup Mode                  | USB Device   |
| Storage                      | Local HDD & Network  |
| Interface Ports              | 2 USB Ports (1 Rear USB 2.0, 1 Front USB 2.0)  |
| Ethernet                     | 1 RJ-45 Port (10/100Mbps)  |
| Protocols                    | HTTP, HTTPS, TCP/IP, IPv4, IPv6, RTSP, UDP, NTP, DHCP, DNS, ONVIF (profile T/profile S/profile G), RTSP, CGI, SDK                      |
| Power Supply                 | DC12V, 1.5A  |
| Model specific certification | STQC, UL/ BIS  |
| Compliance                   | ROHS, ISO 9001   |
| Warranty                     | 3 Year comprehensive on-site OEM warranty  |

**Note:**

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- All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.

**D. PoE switch: (Estimated cost of Rs. 3,000)**

| Parameter              | Generic Technical Specification   |
|------------------------|---|
| Network Ports          | 10 (8+2) Port   |
| PoE Ports              | 8 Port with 100Mbps, RJ45 ports, 30W Max. Output of a Single PoE Port with Transmission Distance of 0 –250m |
| Uplink Ports           | 2 Uplink Port, 100Mbps with Transmission Distance of 0-100m   |
| Switch Capacity        | 2 Gbps Full duplex  |
| Packet Forwarding Rate | 0.1488 Mpps/Port  |
| Network Standard       | IEEE802.3i/802.3u/802.3x  |
| PoE Standard           | IEEE802.3af, IEEE802.3at  |
| PoE Feature            | All ports support MDI/MDIX  |
| MAC Address List       | 2K  |
| Transmission Distance  | 0-100m/100Mbps, Max. 250m/10Mbps via Cat.5e or more under Extend mode                                       |
| PoE watchdog           | Yes   |
| LEDs Indicator         | Light On - Powering, Light Off - No Power   |
| Ethernet Port Light    | Green Light, Red Light  |
| SW (DIP Indicator)     | Light on - VLAN/Extended mode, Light Off - Normal Mode  |
| Extended Mode          | Yes   |
| VLAN                   | Yes   |
| ESD Protection         | Contact Discharge 1.5KV / Air Discharge 1.5KV   |
| Forwarding Mode        | Store-and-forward   |
| Anti-thunder Level     | Common mode: 2KV, Differential mode: 1.5KV  |
| ESD                    | Contact Discharge 1.5KV / Air Discharge Level 1.5KV   |
| Warranty               | 3 Year comprehensive on-site OEM warranty   |

**Note:**

- Any deviation/ alteration/ modification in the specification will not be considered valid.
- All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.

**II. Medium High Level configuration for Surveillance system/ equipment- General Instruction for below Items:**

- All items should have necessary accessories like cable, earthing facility etc. for installation.
- All Hardware/ Software should be Interoperable, IPv6 ready and in compliance with the policies/ guidelines issued by DIT, GoI in this regard.
- All hardware/ software should be complying the updated guidelines and required certification mandated by MeitY, GoI, STQC (Wherever required)

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**1. Full HD IP Motorized Bullet Camera with IR: (estimated cost Rs. 30,000)**

| SN  | Parameter                     |       | Generic Technical Specification  |
|-----|-------------------------------|-------|--|
| 1.  | Camera Type                   |       | Bullet   |
| 2.  | Standard                      |       | ONVIF Profile S Compliant  |
| 3.  | Integration with existing VMS |       | SI has to ensure integration with existing VMS necessary SDK of camera for integration to be provided by SI  |
| 4.  | Model specific Certification  |       | STQC, BIS/ UL  |
| 5.  | Compliance                    |       | RoHS, ISO 9001   |
| 6.  | Edge Storage                  |       | microSD/ microSDHC/ micro SDXC slot along with supporting memory card for min. 256 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored, recording should automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage. |
| 7.  | Image Sensor                  |       | 1/2 .8" CMOS or better   |
| 8.  | Resolution                    |       | 4MP (Min.2560 x 1440) at 25 FPS or better  |
| 9.  | Max. Mbps Constrained VBR     |       | 6  |
| 10. | Compression                   |       | H.264, H.265   |
| 11. | Streaming                     |       | Min. Triple stream compressed (Individually Configurable)  |
| 12. | Audio                         |       | Full Duplex, Audio Input/ Output 1 Ch  |
| 13. | Alarm                         |       | 1 digital input, 1 Relay output  |
| 14. | Audio Compression             |       | G.726/G.711  |
| 15. | Pre/Post buffer               | Alarm | Yes  |
| 16. | ID/Password                   |       | Multi-level user ID/Password   |
| 17. | Encryption                    |       | HTTP(SSL/TLS)/HTTPS  |
| 18. | Video Authentication          |       | For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered   |
| 19. | Physical Layer                |       | 10/100 base Tx Ethernet  |
| 20. | Protocol                      |       | Minimum TCP, HTTP, RTSP, SNMP, IPV4, IPv6, NTP, DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS   |
| 21. | IP Support                    |       | Static/dynamic or both   |
| 22. | Remote Administration         |       | Remote configuration and status using web based tool   |

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|     |                                       |   |
|-----|---------------------------------------|---|
| 23. | System Update                         | Remote system update over Network using web client  |
| 24. | PC Client                             | PC application client with a channel recording feature support  |
| 25. | Web Client                            | Viewer through HTTP(min.) System Configuration Setting / Streaming  |
| 26. | Simultaneous Connection               | 5 users or more   |
| 27. | Lens Type                             | 8-32mm or better , F1.6 or better, Motorized , Varifocal, Autoiris, and IR corrected  |
| 28. | Dynamic Noise Reduction               | 3D  |
| 29. | Auto Exposure                         | Automatic Level Control/Electronic Level Control  |
| 30. | Illumination                          | Color: 0.003 lux, F1.6 or better<br>B/W: 0.04 lux, F1.6 or better<br>IR Length – 80mtr.   |
| 31. | Signal Process                        | Digital Signal Process  |
| 32. | Motion Detection Zones/ privacy zones | 3 or higher   |
| 33. | Auto Gain Control                     | Yes   |
| 34. | Back Light Compensation               | Yes   |
| 35. | High Light Compensation               | Yes   |
| 36. | Electronic Shutter                    | 1/10000s to 1 s or better   |
| 37. | White Balance                         | Yes   |
| 38. | Wide Dynamic Range                    | min 120 db (Sensor based)   |
| 39. | High light compensation               | Yes   |
| 40. | Day and Night                         | Yes (as per minimum illumination)   |
| 41. | Operating Temperature                 | 0 °C to 60 °C<br>Humidity 20–80% RH (non-condensing)  |
| 42. | Power Source                          | Suitable adaptor shall be supplied to make the equipment work on 230V $\pm 10\%$ , 50Hz and Power over Ethernet (POE 802.3 af/at)   |
| 43. | Internet protocol                     | IPv4 and IPv6   |
| 44. | Housing                               | <ul style="list-style-type: none"> <li>• Poly Carbonate/ Aluminum Construction with IP-67</li> <li>• having sunshield in-built,</li> <li>• polycarbonate bird control spike,</li> <li>• Including pole mount/wall mount accessories, Power and data cables</li> </ul> |
| 45. | Anti-Vandalism rating                 | IK10  |
| 46. | Edge based video content Analytics    | Video motion detection and Active tampering alarm   |

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|   |   |   |
|---|---|---|
| 47.   | Human & Vehicle Detection/ Classification Alarm | Yes   |
| 48.   | Accessories                                     | All required accessories at site for installation of camera to be provided like CAT 6 patch chord (7 mtr.), Pole Mount, Corner brackets, Connector kit, screws, required power cable etc. |
| 49.   | Warranty  | 5 years Comprehensive OEM Warranty and Maintenance Support  |
| <b>Note:</b>  |   |   |
| <ul style="list-style-type: none"> <li>Any deviation/ alteration/ modification in the specification will not be considered valid.</li> <li>All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.</li> </ul> |   |   |

**2. Full HD IP PTZ Camera with IR: (estimated cost Rs. 1,00,000)**

| SN  | Parameter                     | Generic Technical Specification   |
|-----|-------------------------------|---|
| 1.  | Camera Type                   | PTZ   |
| 2.  | Standard                      | ONVIF Profile S Compliant   |
| 3.  | Integration with existing VMS | SI has to ensure integration with existing VMS necessary SDK of camera for integration to be provided by SI   |
| 4.  | Model specific Certification  | STQC, BIS/ UL   |
| 5.  | Compliance                    | RoHS, ISO 9001  |
| 6.  | Edge Storage                  | microSD/ microSDHC/ microSDXC slot with memory card minimum 256 GB.(Min. Class 6 or higher, Card to be included).<br>In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored recording should automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage. |
| 7.  | Image Sensor                  | 1/2.8" CMOS or better   |
| 8.  | Resolution                    | 4MP (Min.2560 x 1440) at 25 FPS or better   |
| 9.  | Max. Mbps Constrained VBR     | 10  |
| 10. | Compression                   | H.264, H.265  |
| 11. | Streaming                     | Min. Triple compressed stream (Individually Configurable)   |
| 12. | Audio                         | Full Duplex, Audio Input/ Output 1 Ch   |
| 13. | Alarm                         | 1 digital input, 1 Relay output   |
| 14. | Audio Compression             | G.726/G.711   |
| 15. | Pre/Post Alarm buffer         | Yes   |
| 16. | ID/Password                   | Multi-level user ID/Password  |

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|     |                                       |  |
|-----|---------------------------------------|--|
| 17. | Encryption                            | HTTP(SSL/TLS)/HTTPS  |
| 18. | Video Authentication                  | For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered |
| 19. | Physical Layer                        | 10/100 base Tx Ethernet  |
| 20. | Protocol                              | Minimum TCP, HTTP, RTSP, SNMP, IPV4, IPV6, NTP, DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS                                   |
| 21. | IP Support                            | Static/dynamic or both   |
| 22. | Remote Administration                 | Remote configuration and status using web based tool   |
| 23. | System Update                         | Remote system update over Network using web client   |
| 24. | PC Client                             | PC application client with a channel recording feature support   |
| 25. | Web Client                            | Viewer through HTTP (min.) System Configuration Setting / Streaming  |
| 26. | Simultaneous Connection               | 5 users or more  |
| 27. | Lens Type                             | 4.3-129 mm/4.5-135 mm/4.8-144mm(X30), F1.6 or better motorised Varifocal, Autofocus, Autoiris  |
| 28. | Dynamic Noise Reduction               | 3D   |
| 29. | Auto Exposure                         | Automatic Level Control/Electronic Level Control   |
| 30. | Intelligent Defog                     | Yes  |
| 31. | Illumination                          | Color: 0.003 lux, F1.6 or better<br>B/W: 0.04 lux, F1.6 or better<br>Inbuilt IR (150 mtrs. or better)  |
| 32. | Signal Process                        | Digital Signal Process   |
| 33. | Motion Detection Zones/ privacy zones | 3 or higher  |
| 34. | Auto Gain Control                     | Yes  |
| 35. | Back Light Compensation               | Yes  |
| 36. | High Light Compensation               | Yes  |
| 37. | Electronic Shutter                    | 1/10000s to 1 s or better  |
| 38. | White Balance                         | Yes  |
| 39. | Wide Dynamic Range                    | min 120 db (Sensor based)  |
| 40. | Day and Night                         | Yes (as per minimum illumination)  |
| 41. | Operating Temperature                 | 0 °C to 60 °C<br>Humidity 20-80% RH (non-condensing)   |
| 42. | Power Source                          | Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 at)                                 |
| 43. | Internet protocol                     | IPv4 and IPv6  |

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|     |                                    |   |
|-----|------------------------------------|---|
| 44. | Housing                            | Poly Carbonate/ Aluminium Construction with IP-67<br>Including pole mount/wall mount accessories , Power and data cables  |
| 45. | Anti-Vandalism rating              | IK10  |
| 46. | Panning Range and Speed            | 0 deg to 360 deg, 0.2°/s-160°/s   |
| 47. | Tilting Range and Speed            | 180°, 0.2°/s-120°/s   |
| 48. | Presets                            | 100 presets or higher   |
| 49. | Edge based video content Analytics | Video motion detection and Active tampering alarm   |
| 50. | Accessories                        | All required accessories at site for installation of camera to be provided like CAT 6 patch cord ( 7 mtr.)Pole Mount, Corner brackets, Connector kit, screws, required power cable etc. |
| 51. | Warranty                           | 5years Comprehensive OEM Warranty and maintenance support.  |

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**3. NVR (POE)(4 port): (estimated cost Rs. 20,000)**

| SN  | Parameter                     | Generic Technical Specification  |
|-----|-------------------------------|--|
| 1.  | Integration with Existing VMS | SI has to ensure integration with existing VMS                               |
| 2.  | <b>VIDEO</b>                  |  |
| 3.  | Video Inputs                  | 4 IP Cameras with min.1080p  |
| 4.  | Camera Support                | ONVIF Compliant  |
| 5.  | Video Output                  | 1HDMI,1VGAOUT  |
| 6.  | Display Resolution            | Min.1920×1080,1600×1200,1280×720   |
| 7.  | Display Speed                 | 4 channel real-time live   |
| 8.  | Digital Zoom                  | Yes  |
| 9.  | <b>RECORDING</b>              |  |
| 10. | Video Compression             | H.264, H.265   |
| 11. | Throughput                    | Incoming: Min.80Mbps<br>Outgoing: Min.80Mbps                                 |
| 12. | Recording Resolutions         | 1920x1080,1280x720   |
| 13. | Trigger events                | Alarmin, Audio Detection, Motion Detection, Trip-zone, Tampering, Video loss |
| 14. | <b>PLAYBACK</b>               |  |
| 15. | Performance                   | Up to 4 channel synchronous playback   |

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|     |                           |   |
|-----|---------------------------|---|
| 16. | Digital Zoom              | Yes   |
| 17. | <b>STORAGE</b>            |   |
| 18. | Internal                  | SATA HDD x 2<br>(supplied with 4TB each HDD)  |
| 19. | <b>NETWORK</b>            |   |
| 20. | Connection                | 4 xRJ-45 independent 100Mbps PoE<br>(Should have sufficient power to power up & function one PTZ, along with 3 other cameras ( Dome/BOX/Bullet) populated on same NVR ) interface |
| 21. | Internet protocol         | IPv4andIPv6   |
| 22. | Remote Data Export        | Clip Copy, AVI, JPG   |
| 23. | <b>AUDIO</b>              |   |
| 24. | Audio Communication       | Two way   |
| 25. | Audio In/out              | Local (NVR):1RCA/ 1RCA  |
| 26. | Audio Compression Support | Yes   |
| 27. | <b>PORTS</b>              |   |
| 28. | Alarm In                  | Local (NVR):4TTL  |
| 29. | Alarm out                 | Local(NVR): 1Relayout/IP camera   |
| 30. | USB                       | Min. USB 2.0/3.0  |
| 31. | <b>GENERAL</b>            |   |
| 32. | Certification             | FCC, UL/CE, BIS   |
| 33. | Chassis                   | Rack mountable  |
| 34. | Warranty                  | 5years Comprehensive OEM Warranty and maintenance support   |

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**4. Access Switch (4 port): (estimated cost Rs. 37, 000)**

| SN | Parameter          | Generic Technical Specification   |
|----|--------------------|---|
| 1. | Type               | Managed Outdoor Industrial grade switch   |
| 2. | Total Ports        | Four Ethernet 10/100/1000 POE+ ports and 2 fiber port uplinks<br>(populated SFPs) (Should have sufficient power to power up & function one PTZ, along with 3 other cameras ( Dome/BOX/Bullet) populated on same switch) |
| 3. | Ring Support       | Switch Should support the Ring connectivity in uplink port(IEEE802.17/Equivalent),LLDP/Equivalent, UDLD/Equivalent  |
| 4. | PoE Standard       | IEEE 802.3at on each10/100/1000 ports or better   |
| 5. | PoE Power per port | Sufficient to operate the CCTV cameras connected  |
| 6. | Protocols          | <ul style="list-style-type: none"> <li>Support802.1QVLAN</li> </ul>   |

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|     |  |   |
|-----|--|---|
|     |  | <ul style="list-style-type: none"> <li>• HTTPS/SSH</li> <li>• DHCP support, DHCP snooping</li> <li>• SNMP Management</li> <li>• IGMP Support</li> <li>• IPv6, IPv4 protocol</li> </ul>              |
| 7.  | Multi Cast Support                     | MLD snooping(v1 and v2) and IGMP(v2 and v3)   |
| 8.  | Topology Selection                     | Bidder has to decide switch model type, be it L2 or L3 as per their design principle. However, bidder has to make sure that spanning tree related loops are prevented at each and every layer.      |
| 9.  | Security Features                      | <ul style="list-style-type: none"> <li>• Dynamic ARP Inspection</li> <li>• IP Source Guard</li> <li>• ARP Snooping/Spoofing</li> <li>• Access Control List</li> </ul>                               |
| 10. | Remote Management                      | Shall Support remote management through SNMP traps  |
| 11. | Access Control                         | <ul style="list-style-type: none"> <li>• Support port security</li> <li>• Support 802.1x (Port based network access control).</li> <li>• Support for MAC filtering.</li> </ul>                      |
| 12. | Industrial Rating                      | IP 30 and NEMA TS-2, VAPT   |
| 13. | EN/IEC Standard Ratings                | EN/IEC60068-2-27, ESDEN/IEC61000-4-2,<br>EN/IEC61000-4-3,<br>EN/IEC61000-4-4,<br>EN/IEC61000-4-6,<br>EN/IEC61000-4-8,<br>EN/IEC60068-2-6,<br>RoHS and EMC as FCC Part 15, Class A, IPV6 logo ready. |
| 14. | Surge Protection                       | Yes, EN/IEC61000-4-5  |
| 15. | Operating Temperature                  | -10 to 70 degrees C or better   |
| 16. | Certification to be provided by bidder | UL, CE and NEMATS-2, BIS  |
| 17. | Cables                                 | All necessary data and power cable sand industrial grade power adapter to be provided   |
| 18. | Warranty                               | 5 years Comprehensive OEM Warranty  |

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**5. Laying of armoured cable and end termination: (estimated cost Rs. 300)**

| S N | Description  |
|-----|--|
| 1.  | P/Laying P.V.C. / XLPE insulated & P.V.C. sheathed cable of 1.1 KV grade with aluminum conductor of IS:1554 P-I / IS :7098 P - I of Group 1 of approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, IIInd class bricks covering, refilling earth, compaction of earth, |

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|   | making necessary connection, testing etc. as required of size.   |
|   | Trench: Open trench / Trench excavation in C.C. flooring or Tar road as per site requirement   |
| 2.  | Termination: Supplying and making end termination with heavy duty single compression brass gland SIBG type, heavy duty Copper lugs duly crimped with crimping tool, PVC tape etc for following size of Armoured PVC insulated & PVC sheathed/ XLPE aluminium conductor cable of 1100 volt grade as required of size. |
| 3.  | 4 Sq.mm 3 Core armoured cable  |
| 4.  | Warranty: 5 years comprehensive onsite warranty  |
| <b>Note:</b>  |  |
| <ul style="list-style-type: none"> <li>Any deviation/ alteration/ modification in the specification will not be considered valid.</li> <li>All hardware/ software should be complying with the updated guidelines, required certification mandated by MeitY, GoI and STQC certification.</li> </ul> |  |

## 6. New Pole (Height-8mtrs above cement concrete foundation) for Edge Equipments (estimated cost Rs. 25,000)

| S N | Description  |
|-----|--|
| 1.  | Pole shall have options to host and install security cameras, sensors and detectors.   |
| 2.  | Pole shall be able to host at least 4 cameras/ sensors on top having a total weight up to maximum 30Kg.  |
| 3.  | Pole shall be able to host solar pane (vertically mounted) having total weight maximum of 90Kg.  |
| 4.  | Designed in accordance with ISS publication: Indian Standard specification For Structure Support Highway Signs, Luminaries and Traffic signals.  |
| 5.  | Suitable size Outdoor Junction Box shall be provided for electric meter to be installed at pole  |
| 6.  | AC to DC converter shall be provided with pole   |
| 7.  | Power sockets(5/15A) as per requirement, subject to minimum of two sockets.  |
| 8.  | Suitable size earth termination shall be provided to connect with the proposed earth pit. Pipe earthing of each pole as per IS Standard. Pipe Earthing as per IS:3043 with perforated 3.0 Mtr. Long, 40 mm dia. ' B 'class G.I. Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300 mm and embodying the pipe complete with alternate layers salt and coke/charcoal, testing of earth resistance as required. The Pipe earth electrode should be connected to pole mounting the required camera with 8SWG GI wire. |
| 9.  | Pole shall have Camouflaged Junction Box with locking arrangement. JB size 300H x 400W x 200D with all round welded construction with trough design to meet an IP rating of IP66, Front panel with screw with PU Foam in place gasketing, bottom with out gland plate with 4 holes at the rear wall for wall mounting provision with 1 number of fixed mounting plate at the inner rear wall.(with earth Stud). There should be enough space inside enclosure to hold minimum 1 no. of 4 port Access Switch, PSU, Fibre and Power termination arrangement etc.<br>DIN Rail Mount MCB As required, Power Termination Arrangement with Surge                                 |

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|--|--|-----------------|----|---------------------|-----|-------------------------|---|---------------------|----------------|--|------|-----------|-----|---------------------|-----|-------------------------|------------------|
|  | Protector, Wall mounting Bracket (Set of 4) or Pole, Din Rail 300MM Long, SS Cable Gland M25<br>SS Cable Gland M50, Fiber Termination Arrangement  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 10.                                    | Supply and erection of GI Octagonal of following length and dimension as per table given below with base plate on the cement concrete foundation of M-20 grade (1:1.5:3) with the help of anchor bolts of grade 6.8 (IS: 1367PIII).  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
|  | <table border="1"> <tr><td>Top Dia (In mm)</td><td>70</td></tr> <tr><td>Bottom Dia. (In mm)</td><td>135</td></tr> <tr><td>Sheet Thickness (In mm)</td><td>3</td></tr> <tr><td>Base Plate ( In mm)</td><td>225 x 225 x 16</td></tr> <tr><td>Foundation Bolt Size No. x Dia (In mm)</td><td>4x20</td></tr> <tr><td>PCD in mm</td><td>210</td></tr> <tr><td>Bolt Length (In mm)</td><td>750</td></tr> <tr><td>Foundation Size (in mm)</td><td>450 x 450 x 1550</td></tr> </table> | Top Dia (In mm) | 70 | Bottom Dia. (In mm) | 135 | Sheet Thickness (In mm) | 3 | Base Plate ( In mm) | 225 x 225 x 16 | Foundation Bolt Size No. x Dia (In mm) | 4x20 | PCD in mm | 210 | Bolt Length (In mm) | 750 | Foundation Size (in mm) | 450 x 450 x 1550 |
| Top Dia (In mm)                        | 70   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Bottom Dia. (In mm)                    | 135  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Sheet Thickness (In mm)                | 3  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Base Plate ( In mm)                    | 225 x 225 x 16   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Foundation Bolt Size No. x Dia (In mm) | 4x20   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| PCD in mm                              | 210  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Bolt Length (In mm)                    | 750  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| Foundation Size (in mm)                | 450 x 450 x 1550   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 11.                                    | The pole shall have a weatherproof flush door and locking arrangements.  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 12.                                    | The complete work shall be supervised and certified by the manufacturers for satisfactory supply, erection, testing and commissioning.   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 13.                                    | Octagonal MS Poles made of S-355JO grade steel , folded length wise to obtained Octagonal shape, having single longitudinal seam weld and hot dipped galvanized internally & externally in accordance with IS2629 and ISO1461  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 14.                                    | Supply, Erection and Fixing of hot dipped galvanized Overhang (48.3X 3.25mm) with cap (400x 88.9/114.3x 3.25mm) over the existing poles<br>Options:<br>Single Arm Overhang<br>Double Arm Overhang  |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |
| 15.                                    | Warranty: 5 years Comprehensive OEM Warranty   |                 |    |                     |     |                         |   |                     |                |  |      |           |     |                     |     |                         |                  |

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