







No. Adum/3/20/8317/18840

From

Principal Secretary to Government of Haryana Citizen Resource Information Department (CRID)

To

- 1. All the Administrative Secretaries to Govt. Haryana
- 2. All the Heads of Departments in Haryana Chief Administrator, HSVP
- 3. All the Managing Directors/ Chief Administrators/ Chief Executive Officers of Boards/ Corporations/ Public Sector Undertakings owned & controlled by Govt. of Haryana.
- 4. All the Divisional Commissioners in Haryana
- 5. All the Deputy Commissioners in Haryana
- 6. The Registrars of all Govt./State Universities in Haryana
- 7. The Secretary, Haryana Public Service Commission
- 8. The Secretary, Haryana Staff Selection Commission
- 9. State Informatics Officer, HSU, Chandigarh

Chandigarh, Dated, the 01.06.2023

Subject: Generic Technical Specifications for Laptop and Desktop Computer Systems.

Sir/Madam,

I am directed to address you on the subject cited above and to inform you that Government have observed that many Departments/Boards/Corporations/State Govt. organizations are facing issues while procuring Laptop and Desktop Computer Systems due to repeated launching/availability of new generation of processors and other electronic systems in the market. It has also been noticed that to meet the industry standards with current availability, various Government departments lack full knowledge with respect to specifications of multiple types of Brands and OEMs available in the laptop and desktop markets.

After careful consideration, State Government (IT Department) has drafted generic specifications for Laptop and Desktop Computer Systems taking into consideration multiple new generation processors and OEMs available to ensure maximum participation and healthy competition among potential bidders during any purchase processes. A copy of the statement showing Generic minimum technical specifications for Laptops and Desktop Computer Systems with latest configurations (for different categories) duly approved by the State Technical Committee is enclosed for reference.

Accordingly, all the State Departments/ Govt. organizations may consider these generic specifications and take further appropriate action in the matter.

Special Secretary, IT For Principal Secretary to Government of Haryana Citizen Resources Information Department (CRID)

### Intel Processor Based Computer Systems

Category-I (Intel) (Normal Office Function Computer System):

Туре	Parameter	Required Minimum Specification
Processor	Generation	Intel® Core™ i3 Processor 11 <sup>th</sup>
		Generation or higher.
	CPU Architecture	X64
	Speed (Min Base	2.2 GHz or Higher
	Frequency)	and or ringines
	Turbo Frequency	4.10 GHz or higher
	Cores	Min. 4
	Threads	Min. 8
	Cache	12 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	1x16 GB DDR-IV (2933 MHz) or higher
		expandable up to 32 GB (Min. 2 DIMM) or higher
	Video Graphics	Integrated Graphics
	PCI Slot	Minimum 1 PCI Express v 16
Hard disk Drive	256 GB SSD + 1 TB SATA	A (7200 RPM) or 512 GB SSD or higher
(HDD/SSD)	capacity	, and any of the transfer of this field
Display	Screen Size	19.5" or more TCO 08 certified
	Display Technology	Active Matrix TFT LCD (Backlit LED)
	Resolution	1600x900 or higher
Keyboard	Standard USB OEM make	e
Mouse	Optical/Laser USB OEM	
Operating System	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS	Linux
	supported	PHENON LEAST STATE THE PARTY OF
Miscellaneous	Ports, Security & Misc.	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Head Phone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
	Volume	<= 13.5 Liters
Varranty		Min 5 years OEM onsite comprehensive warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
		Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
		Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

### **AMD Processor Based Computer Systems**

Category-I AMD (Normal Office Function):

Туре	Parameter	Required Minimum Specification
Processor	Generation	AMD Ryzan 3, 5000 series or higher
The state of the s	CPU Architecture	x64
	Speed (Min Base	4.0 GHz or higher
	Frequency)	no one or night
	Cores	Min. 4
	Threads	Min. 8
A METURALINA	Cache	10 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable up to 32 GB (Min. 2 DIMM) or higher
	Video Graphics	Integrated Graphics
	PCI Slot	Minimum 1 PCI Express v 16
Hard disk Drive (HDD/SSD)	256 GB SSD + 1 TB SATA capacity	A (7200 RPM) or 512 GB SSD or higher
Display	Screen Size	19.5" or more TCO 08 certified
	Display Technology	Active Matrix TFT LCD (Backlit LED)
	Resolution	1600x900 or higher
Keyboard	Standard USB OEM make	e
Mouse	Optical/Laser USB OEM	
Operating System	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS supported	Linux
Miscellaneous	Ports, Security & Misc	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Head Phone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
V	Volume	<= 15.5 L
Varranty		Min 5 years OEM onsite comprehensive warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
		Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
		Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

# Intel Processor Based Computer Systems

Category-II Intel (Middle/Higher Management Mid-Scale Development Computer System):

Туре	Parameter	Required Minimum Specification
Processor	Generation	Intel® Core™ i5 Processor 11 <sup>th</sup> Generation or higher.
	CPU Architecture	x64
	Speed (Min Base Frequency)	2.5 GHz or higher
	Turbo Frequency	4.4 GHz or higher
	Cores	Min. 6
	Threads	Min. 12
	Cache	12 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable up to 64 GB (Min. 2 DIMM) o higher
	Video Graphics	Integrated Graphics
and the same	PCI Slot	Minimum 1 PCI Express x 16
Hard disk Drive	512 GB SSD + 1 TB SATA (7200 RPM) or higher or 1 TB SSD or higher capacity	
Display	Screen Size	19.5" or more TCO 08 certified
	Display Technology	Active Matrix TFT LCD (Backlit LED)
	Resolution	1600x900 or higher
Keyboard	Standard USB OEM make	1 1 3 3 3 7 3 3 1 1 1 1 1 1 1 1 1 1 1 1
Mouse	Optical/Laser USB OEM ma	ike
Operating System	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS supported	Linux
Miscellaneous	Ports, Security & Misc.	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Headphone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
Varranty	Volume	<= 13.5 Liters
Varranty		Min 5 years OEM onsite comprehensive Warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
		Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
		Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

# **AMD Processor Based Computer Systems**

Category-II AMD (Middle/Higher Management Mid-Scale Development):

Туре	Parameter	Required Minimum Specification
Processor	Generation	
	CPU Architecture	AMD Ryzan 5, 5000 Series or higher x64
	Speed (Min Base Frequency)	3.9 GHz or higher
	Cores	Min. 6
	Threads	Min. 12
	Cache	19 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	
	,	1x16 GB DDR-IV (2933 MHz) or higher
	Video Graphics	expandable up to 64 GB (Min. 2 DIMM)
	PCI Slot	Integrated Graphics
Hard disk Drive	- Designation of the second se	Minimum 1 PCI Express x 16
Display	Screen Size	00 RPM) or 1 GB SSD or higher capacity.
Service of the service of	Display Technology	19.5" or more TCO 08 certified
	Resolution	Active Matrix TFT LCD (Backlit LED)
Keyboard	Standard USB OEM make	1600x900 or higher
Mouse		
Operating System	Optical/Laser USB OEM make	
operating system	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS supported	Linux
Miscellaneous	Ports, Security & Misc.	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Headphone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
Varranty	Volume	<= 15.5 L
rairanty		Min 5 years OEM onsite comprehensive Warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
		Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
	The State of	Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

# Intel Processor Based Computer Systems

Category-III (Intel) (Top Management High End Programming/Development Computer System):

Туре	Parameter	Required Minimum Specification
Processor	Generation	Intel® Core™ i7 Processor 11 <sup>th</sup>
	CPU Architecture	Generation or higher.
	Speed (Min Base Frequency)	1.6 GHz or higher
	Turbo Frequency	4.9 GHz or higher
	Cores	Min. 8
	Threads	Min. 16
A The Big	Cache	16 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable up to 64 GB (Min. 2 DIMM) or higher
	Video Graphics	Integrated Graphics
	PCI Slot	Minimum 1 PCI Express v 16
Hard disk Drive	512 GB SSD + 1 TB SATA (7	(200 RPM) or 1 TB SSD or higher capacity.
Display	Screen Size	19.5" or more TCO 08 certified
	Display Technology	Active Matrix TFT LCD (Backlit LED)
**	Resolution	1600x900 or higher
Keyboard	Standard USB OEM make	The state of Higher
Mouse	Optical/Laser USB OEM ma	ake
Operating System	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS supported	Linux
Miscellaneous	Ports, Security & Misc	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Headphone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
	Volume	<= 13.5 Liters
Varranty		Min 5 years OEM onsite comprehensive warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
		Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
		Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

### **AMD Processor Based Computer Systems**

Category-III AMD (Top Management High End Programming/Development):

Туре	Parameter	Required Minimum Specification
Processor	Generation	AMD Ryzan 7, 5000 Series or higher
	CPU Architecture	x64
	Speed (Min Base Frequency)	3.8 GHz or higher
	Cores	Min. 8
	Threads	Min. 16
	Cache	20 MB or higher
Mother Board	Sound/ Audio System	Integrated
	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable up to 64 GB (Min. 2 DIMM)
	Video Graphics	Integrated Graphics
	PCI Slot	Minimum 1 PCI Express x 16
Hard disk Drive	512 GB SSD + 1 TB SATA (720	0 RPM) or 1 TB SSD or higher capacity.
Display	Screen Size	19.5" or more TCO 08 certified
	Display Technology	Active Matrix TFT LCD (Backlit LED)
	Resolution	1600x900 or higher
Keyboard	Standard USB OEM make	
Mouse	Optical/Laser USB OEM make	
Operating System	Preloaded OS	Windows 11 Professional 64 bit OEM or Higher
	Additional OS supported	Linux
Miscellaneous	Ports, Security & Misc	Minimum 6 USB Ports (Out of which 3 USB 3.0 ports and minimum 2 USB ports should be at front), 10/100/1000 Ethernet Card, 1x VGA/DP, 1x Display Port/HDMI, Microphone & Stereo Headphone/ Combo port and other standard ports, TPM 2.0 or higher.
	Power Supply	260 W or less Power supply (>=85% efficient), Active PFC or higher
	Volume	<= 15.5 L
Warranty		Min 5 years OEM onsite comprehensive warranty.



S#	Category of Standard	Description	Name of Certification
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS 13252(Part1):2010/ IEC 60950 Part1:2005/ UL Certification/ Equivalent Indian Standard
	BOWNERS OF	Certification for Electro Magnetic Interference/Radiation under control	FCC/Equivalent certification from NABL approved Lab
		Restriction of Hazardous Substances in manufacturing	India WEEE & India RoHS/ International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or higher/ Equivalent BEE Star rating
3.	Environmental Standards	Environmental Protection Standard	EPEAT/ Equivalent Indian Standard
4.	ISO standard	ISO 9001	ISO 9001

- 1. 1x64 GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16xGB DDR-IV (2933).
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. 21.5-inch Monitor TCO 8 (1980x1080) in lieu of 19.5 Inch Monitor.
- 5. Dos/Linux in lieu of Windows 11 Professional 64 bit Operating Systems.
- 6. Windows STF (Shape the future Program) in lieu of Windows 11 Professional 64 bit Operating Systems.
- 7. Internal Wi-Fi Card.

### Intel Processor Based Laptops

Category-I (Intel) (Normal Office Function Laptop)

	Туре	Parameter	Specification
1.	. Processor	Generation	Intel® Core™ i3 Processor 12 <sup>th</sup> Generation or higher
		CPU Architecture	x64
		Efficient Core Max Turbo Frequency	3.30 GHz or higher
		Performance-core Max Turbo Frequency	4.40 GHz or higher
		CPU Cores	Minimum 6
		CPU Threads	Minimum 8
		Cache	Minimum 10 MB or higher
•		Wireless Connectivity	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5.
2.	Motherboard	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable
		Video Graphics	upto 32 GB (with one DIMM free) or higher Integrated HD Graphics or better
		Sound System	Integrated Steem 5
3.	Hard Disk Drive	Journa System	Integrated Stereo Speaker
(230 GB 33D + 11B SATA F		(256 GB SSD + 1TB SATA HDD) or (512 GB SSD) or higher	
4.	Display	Screen Size	14.0" or higher
		Display Technology	Anti-glaro LED Bealth Di
	The second	Resolution	Anti-glare LED Backlit Display 1366 x 768 or higher
		Web Camera	Integrated UD Web C
5.	Keyboard		Integrated HD Web Camera (720p or higher)
6.	Operating	Preloaded OS	Normal Keyboard with Touchpad
	System	Additional OS	Windows 11 Professional 64 bit OEM
7.		Supported	Linux
	Miscellaneous	Ports	Minimum 3 USB ports out of which 1 port should be USB 3.0 or higher and 1 port shall be Type C port with docking support, 10/100/1000 Ethernet Card, VGA/HDMI, Microphone, Stereo Headphone, and otherstandard ports.
		Weight with Battery	Less than 2 Kg
- 1		Battery Backup	Minimum 6 hours
		Security	TPM 2.0 or higher
		Warranty	Minimum 3 years OEM on-site comprehensive warranty including battery
		Carry Case, charging adaptor	Good quality carry case/bag, ChargingAdapter



S#	Category of Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	ISO 9001	ISO 9001

#### Add on items: -

- 1. 1x16GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems

### AMD Processor Based Laptops

Category-I (AMD) (Normal Office Function Laptop)

	Туре	Parameter	Specifican'
1.		Generation	Specification
	- Daller Learner et	CPU Architecture	AMD Ryzen 3, 5000 Series or Higher.
		Speed (Min Base	2.7 GHz or higher
		frequency)	2.7 GHZ or nigner
		Boost Clock	4.1 GHz or higher
		Frequency	
		CPU Cores	Minimum 4
		CPU Threads	Minimum 8
		Cache	Minimum 8 MB or higher
		Wireless	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5.
2	14-41-1	Connectivity	integrated Bluetooth 5.
2.	Motherboard	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable
			upto 32 GB (with one DIMM free) or higher
		Video Graphics	Integrated HD Graphics or better
		Sound System	
3.	Hard Disk Drive	and System	Integrated Stereo Speaker
,			(256 GB SSD + 1TB SATA HDD) or (512 GB SSD) or higher
4.	Display	Screen Size	14.0" or higher
		Display Technology	Anti-glare LED Backlit Display
		Resolution	1366 x 768 or higher
F		Web Camera	Integrated HD Web Camera (720p or higher)
5.	Keyboard		Normal keyboard with Touchpad
6.	Operating	Preloaded OS	Windows 11 Professional 64 bit OEM
	System	Additional OS	Linux
7.	Min 11	Supported	
· ·	Miscellaneous	Ports	Minimum 3 USB ports out of which 1 port should
			De UJD J.U UI NIONER and 1 nort chall be T.
			POIL WILL GOCKING SUPPORT 10/100/1000 FLL
			Cara, VOA/ HUMI, MICHARDONA Stores Load-L-
			and otherstandard ports.
		Weight with	Less than 2 Kg
		Battery	
		Battery Backup	Minimum 6 hours
		Security	TPM 2.0 or higher
		Warranty	Minimum 3 years OEM on-site comprehensive
			waitality lifetuding pattery
		Carry Case,	Good quality carry case/bag, ChargingAdapter
		charging	, and bug, charging Adapter
		adaptor	



S#	Category of Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	ISO 9001	ISO 9001

#### Add on items: -

- 1. 1x16GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems

# Intel Processor Based Laptops

Category-II (Intel) (Middle/Higher Management Mid-Scale Development Laptop)

_	Туре	Parameter	6 17
1.	. Processor	Generation	Specification
			Intel® Core™ i5 Processor 12 <sup>th</sup> Generation or higher
		CPU Architecture	x64
	real chiral being	Efficient Core Max Turbo Frequency	3.10 GHz or higher
		Max Turbo Frequency	4.40 GHz or higher
	4	CPU Cores	Minimum 8
		CPU Threads	Minimum 12
	The part of the	Cache	Minimum 12 MB or higher
		Wireless	IFFF 802 11 py (W: F: 6)
2.	Motherboard	Connectivity	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5. or higher.
	Motherboard	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable
		Video Compli	
		Video Graphics	Integrated HD Graphics or better
-		Sound System	Integrated Stereo Speaker
			(512 CR CCD - ATD CATA
_			(512 GB SSD + 1TB SATA HDD) or (1 TB SSD or higher)
4.	Display	Screen Size	14.0" or higher
		Display Technology	Anti-glare LED D. Live St.
	10.00	Resolution	Anti-glare LED Backlit Display
		Web Camera	1920x1080 or higher
5.	Keyboard	, res camera	Integrated HD Web Camera (720p or higher)
6.	Operating	Preloaded OS	Spill Resistant Dacklit kouboard with T
	System	1 retoaded 05	The state of the s
	-,	Additional OS	Linux
7.	Miscellaneous	Supported	
	sectianeous	Ports	Minimum 4 USB ports out of which 2 port should be USB 3.0 or higher and 1 port shall be Type C port with docking support, 10/100/1000 Ethernet Card, VGA/HDMI, Microphone, Stereo Headphone, and otherstandard ports.
		Weight with Battery	Less than 2 Kg
		Battery Backup	Minimum 6 hours
		Security	TPM 2.0 or higher
		Warranty	Minimum 3 years OFH
			Minimum 3 years OEM on-site comprehensive warranty including battery
		charging adaptor	Good quality carry case/bag, ChargingAdapter



S#	Category of Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards		Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	ISO 9001	ISO 9001

#### Add on items: -

- 1. 1x16GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.
- 1 TB SSD in lieu of 512 GB SSD.
   Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems

# AMD Processor Based Laptops

Category-II (AMD) (Middle/Higher Management Mid-Scale Development)

	Туре	Parameter	Consideration
1.	Processor	Generation	Specification
		CPU Architecture	AMD Ryzen 5, 5000 Series or Higher
		Speed (Min Base	
		frequency)	2.3 GHz or higher
		Boost Clock	4.3 GHz or higher
		Frequency	
		CPU Cores	Minimum 6
		CPU Threads	Minimum 12
		Cache	Minimum 19 MB or higher
		Wireless	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5.
2.	Math. I	Connectivity	integrated bluetooth 5.
۷.	Motherboard	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable
		Video Graphics	Integrated HD Graphics or better
		Sound System	
3.	Hard Disk Drive	- Janua System	Integrated Stereo Speaker
_		sk Drive (512 GB SSD + 1TB SATA HDD) or (1 TB Stor higher	
4.	Display	Screen Size	14.0" or higher
		Display Technology	Anti-glare LED Backlit Display
		Resolution	1920x1080 or higher
-	1/ 1	Web Camera	Integrated HD Web Camera (720p or higher)
5.	Keyboard		Spill Resistant backlit keyboard with Touchpad
6.	Operating	Preloaded OS	Windows 11 Professional 64 bit OEM
	System	Additional OS	Linux
7	117 11	Supported	
7.	Miscellaneous	Ports	Minimum 4 LISB ports out of which 2
			Minimum 4 USB ports out of which 2 port should be USB 3.0 or higher and 1 ports by USB 3.0 or highe
			be USB 3.0 or higher and 1 port shall be Type C port with docking support, 10/100/1000 Ethernet
			Card. VGA/HDMI Microphone Staves to
			Card, VGA/HDMI, Microphone, Stereo Headphone, and otherstandard ports.
		Weight with	Less than 2 Kg
		Battery	Less chan z Ng
		Battery Backup	Minimum 6 hours
		Security	TPM 2.0 or higher
		Warranty	Minimum 2 years OFM
		,	Minimum 3 years OEM on-site comprehensive
		Carry Case,	rial falls illettitillo natroni
		charging	Good quality carry case/bag, ChargingAdapter
		adaptor	



S#	Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards		Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	ISO 9001	ISO 9001

#### Add on items: -

- 1. 1x16GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.
- 1 TB SSD in lieu of 512 GB SSD.
   Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems

# Intel Processor Based Laptops

Category-III (Intel) (Top Management High End Programming/Development Laptop)

-	Туре	Parameter	n End Programming/Development Laptop)	
1	. Processor	Generation	Specification	
		- Cracion	Intel® Core if Processor 12th Concention	
		CPU Architecture		
	The second second	Efficient decture	x64	
		Efficient Core Max Turbo Frequency	or i or iz or migner	
	The same state	Performance-core Max Turbo Frequency CPU Cores	or maner	
		CPU Cores	Minimum 10	
-		CPU Threads	Minimum 12	
		Cache	Minimum 12 MB or higher	
		Wireless	IFFF 802 11 av (W) 5: (i)	
2.	Motherboard	Connectivity Memory	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5. or higher	
	- Court	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable	
		Video	upto 64 GB (with one DIMM free)	
		Video Graphics	mices alen mil Grannics or bottom	
		Sound System	Integrated Stereo Speaker	
3.	Hard Disk Drive		s area secreo speaker	
٥.	TIATO DISK DETVE		(512 GB SSD + 1TB SATA HDD) or (1 TB SSD)	
4.	Display	1.0	or higher (1 TB SSD)	
т.	Display	Screen Size	14.0" or higher	
		Display Technology   Anti-glare LED B. Lives		
		Resolution	1920x1080 or higher	
_		Web Camera	Integrated US	
5.	Keyboard	- India	Integrated HD Web Camera (720p or higher)	
6.	Operating	Preloaded OS		
	System	Additional OS		
	The state of the s	Supports d	Linux Linux	
7.	Miscellaneous	Supported		
	secttarieous	Ports	Minimum 4 USB ports out of which 2 port should be USB 3.0 or higher and 1 port should	
			be USB 3.0 or higher and 1 port shall be Type C	
			port with docking support 40 400 that De Type C	
			port with docking support, 10/100/1000 Ethernet	
		Weight with	- Juliadia Dolits.	
		Battery	Less than 2 Kg	
		Battery Backup	W	
		Security	Minimum 6 hours	
		111	TPM 2.0 or higher	
		1.5	Minimum 3 years OFM on site	
		C	warranty including battery	
		Carry Case,	Good quality carry case /h Cl	
		charging	Good quality carry case/bag, ChargingAdapter	
_		adaptor		



S#	Category of Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards		Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	ISO 9001	ISO 9001

#### Add on items: -

1. 1x16GB DDR-IV RAM (2933 MHz).

2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.

3. 1 TB SSD in lieu of 512 GB SSD.

4. Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems

### **AMD Processor Based Laptops**

Category-III (Top Management High End Programming/Development)

,	Туре	Parameter	Specification
1.	Processor	Generation	AMD Ryzen 7, 5000 Series or Higher.
		CPU Architecture	x64
		Speed (Min Base	2.0 GHz or higher
		frequency)	2.0 GHZ of Higher
	Personal stripts	Boost Clock	4.5 GHz or higher
		Frequency	and the state of t
	- 10	CPU Cores	Minimum 8
		CPU Threads	Minimum 16
	L. 14	Cache	Minimum 16 MB or higher
		Wireless	IEEE 802.11 ax (Wi-Fi 6), Integrated Bluetooth 5.
2		Connectivity	The second of th
2.	Motherboard	Memory	1x16 GB DDR-IV (2933 MHz) or higher expandable
			UDIO 04 LID (WILD ODD DIMAM +rock)
		Video Graphics	Integrated HD Graphics or better
		Sound System	
3.	Hard Disk Drive	Todaila System	Integrated Stereo Speaker
			(512 GB SSD + 1TB SATA HDD) or (1 TB SSD) or higher
4.	Display	Screen Size	14.0" or higher
		Display Technology	Anti-glare LED Backlit Display
		Resolution	1920x1080 or higher
		Web Camera	Integrated HD Web Company (730
5.	Keyboard		Integrated HD Web Camera (720p or higher)
6.	Operating	Preloaded OS	Spill Resistant backlit keyboard with Touchpad Windows 11 Professional 64 bit OEM
	System	Additional OS	Linux
		Supported	Ellida
7.	Miscellaneous	Ports	Minimum 4 LICE ports out of this
			Minimum 4 USB ports out of which 2 port should
			be USB 3.0 or higher and 1 port shall be Type C
			port with docking support, 10/100/1000 Ethernet
			Card, VGA/HDMI, Microphone, Stereo Headphone, and otherstandard ports.
		Weight with	Less than 2 Kg
		Battery	Less than 2 kg
		Battery Backup	Minimum 6 hours
		Security	TPM 2.0 or higher
		Warranty	Minimum 3 years OFM and it
		,	Minimum 3 years OEM on-site comprehensive
		Carry Case,	warranty including battery
		charging	Good quality carry case/bag, ChargingAdapter
		adaptor	



S#	Standard	Description	Name of Certification.
1.	Safety Standards	Safety of Electronics Products against Electrical Hazards	IS13252 (part1):2010/IEC60950 Part1:2005/UL certification/EquivalentIndian Standard
		Certification for Electrical magnetic Interference/ Radiationunder control	FCC/Equivalent certification from NABLapproved Lab,
		Restriction of Hazards Substancein manufacturing	India WEEE & India RoHS/International RoHS
2.	Energy Efficiency Standards	Energy Efficiency Standard	Energy Star 7.0 or Higher/Equivalent BEEStar rating
3	Environmental Standards	Environmental protectionstandard	EPEAT/Equivalent IndianStandard
4	ISO Standards	iso 9001	ISO 9001

#### Add on items: -

- 1. 1x16GB DDR-IV RAM (2933 MHz).
- 2. 1x32GB DDR-IV RAM (2933 MHz) in lieu of 16 GB DDR-IV RAM.
- 3. 1 TB SSD in lieu of 512 GB SSD.
- 4. Dos/Linux in lieu of Windows 11 Professional.

Windows STF (Shape the Future) in lieu of Windows 11 Professional 64 bit Operating Systems