

Specifications for the Desktop Computer	
Category	Specifications
Model	
Brand	
Processor:	Intel Core i5-14400 (14th Gen, 10 cores - 6 Performance + 4 Efficient, 16 threads, base 2.5 GHz, turbo up to 4.7 GHz)
Graphics:	Integrated Intel UHD Graphics 730 (or newer equivalent in 14th Gen)
RAM:	8GB DDR5-4800 (or DDR5-5600 where supported; configurable as 1x8GB or 2x4GB)
Memory Slots:	2 slots (max up to 64GB or higher, depending on motherboard)
Storage:	512GB NVMe SSD
Storage Expansion:	Supports additional NVMe SSD (up to 1TB+), SATA HDD (up to 2TB+), multiple SATA slots
Optical Drive:	Optional slimline DVD +/- RW
Expansion Slots:	Typically 1 PCIe x16 (Gen4/5), 1-2 PCIe x1, 1-2 M.2 slots (for SSD/Wi-Fi), multiple SATA slots
Audio:	Integrated High Definition Audio (5.1 channel support)
Operating System:	Windows 11 Home/Pro
Wireless & Bluetooth:	Wi-Fi 6 (802.11ax) + Bluetooth 5.3 (or newer)
Power Supply:	300W (or equivalent 80+ Bronze rated)
Front Ports:	1x USB 3.2 Gen 1, 2x USB 2.0, 1x USB-C (optional), 1x headset jack, SD card slot (optional)
Rear Ports:	1-2x DisplayPort/HDMI, RJ-45 Ethernet, additional USB 3.2/2.0, optional VGA/serial
Warranty:	1 Year (standard onsite or carry-in)
Monitor:	22 inch Full HD LED (1080p or higher)
Keyboard & Mouse:	Wired set included


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पुणे

Specifications for the Desktop Computer

Brand	
Series	
Processor	Intel Core i5
Graphic	Intel UHD
Gen	12th Gen
RAM	8GB
Memory Slot	1X4 SO-DIMM DDR4-5600
Max Memory	2 Slot Max up to 64GB
Storage	512GB SSD
Storage Expansion	Supports 1TB NVMe SSD, 2TB HDD
Optical Drive	Dell Slimline 16x DVD +/- RW (Optional)
Expansion Slots	1 full-height Gen3 PCIe x16 slot 2 full-height Gen3 PCIe x1 slot 1 M.2 2230 slot for WiFi and Bluetooth combo card 1 M.2 2230/2280 slot for solid-state drive 2 SATA 3.0 slots for 3.5-inch hard drive 1 SATA 2.0 slot for optical drive 1 wedge-shaped lock slot 1 padlock ring
Audio	Integrated 5.1 Channel High Definition Audio
Operating System	Windows 11
Wireless & Bluetooth	Wi-Fi 5 (802.11ac), Bluetooth 5.3
Power Supply	300W Bronze Internal PSU
Front Ports	1x USB 3.2 Gen 1, 2x USB 2.0, 1x USB-C, 1x Headset Jack, 1x SD Card Slot (Optional)
Rear Ports	1x DisplayPort 1.4a, 1x RJ-45 Ethernet, 1x Optional Serial, 1x Optional VGA
Warranty	1 Year
Monitor	19 Inch
Keyboard & Mouse	Yes (1 Set)

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Specifications for Laptop Computer



Category	Specification
Brand	
Series	
Processor	AMD Ryzen 5 7000 Series (6-10 cores, 8 threads, up to ~4.3 GHz boost)
Graphics	Integrated AMD Radeon 700M Series Graphics
Memory (RAM)	16 GB LPDDR5, 4800-6400 MHz (soldered, dual-channel)
Storage	512 GB PCIe NVMe SSD (M.2 2242)
Display	14.0" Full HD (1920 × 1080), IPS Panel, Anti-glare, ~300 nits
Operating System	Windows 11 Home
Camera	1080p (FHD) webcam with privacy shutter
Audio	Stereo speakers with Dolby Audio support Dual noise-reduction microphones
Keyboard & Touchpad	Backlit keyboard Precision touchpad (multi-gesture)
Ports / Connectivity	2× USB-A 3.2 Gen 1 1× USB-C 3.2 Gen 1 (Data, PD, DisplayPort) HDMI Headphone/mic combo jack SD card reader Wi-Fi 6 Bluetooth 5.2
Security Features	Firmware TPM 2.0 Camera shutter Optional fingerprint reader (varies by unit)
Battery	47 Wh lithium-polymer 65 W power adapter Estimated backup: ~10–14 hours (usage dependent)
Dimensions	Approx. 324.3 × 213.8 × 17.9 mm
Weight	Approx. 1.37 kg
Build Quality	Polycarbonate-ABS chassis Anti-fingerprint finish
Warranty	1-year standard hardware warranty

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Specifications for Laptop Computer

Category	Component	Minimum Specification Required
Model/Brand		
Processor	Family/Generation	Intel Core i5 (14th Generation or Newer Equivalent)
	Core/Thread Count	10 Cores (≥ 2 P-Cores, ≥ 8 E-Cores) and ≥ 12 Threads
	Base / Turbo Freq.	Base ≥ 1.3 GHz / Turbo ≥ 4.4 GHz
	Cache Memory	≥ 12 MB (Smart Cache/L3)
Graphics	Integrated GPU	Integrated Intel Iris Xe Graphics or Intel UHD Graphics
Memory	System RAM	8 GB
	RAM Type/Speed	DDR4 (≥ 3200 MHz) or DDR5 (≥ 4800 MHz)
	Expansion Slot	At least one user-accessible RAM expansion slot
Storage	Primary Drive	512 GB
	Drive Type	PCIe NVMe M.2 SSD (PCIe 3.0 or higher)
Display	Size/Resolution	14-15.6" Full HD (1920 $\times$ 1080)
	Panel Type	IPS or Equivalent Wide Viewing Angle (WVA) Anti-Glare Panel
Multimedia	Webcam/Mic	Integrated HD 720p webcam with dual-array digital microphone
	Audio	Integrated Stereo Speakers with HD Audio support
Connectivity	USB Type-A	$\geq 2 \times$ USB Type-A (USB 3.2 Gen 1 or higher)
	USB Type-C	$\geq 1 \times$ USB Type-C (Minimum Data Transfer Support)
	Video Out	1 $\times$ Full-size HDMI output port
	Wired Network	RJ-45 Gigabit Ethernet Port (≥ 1000 Mbps)
	Wireless	Wi-Fi 6 (802.11ax) or superior, and Bluetooth 5.0 or higher
Input/OS	Operating System	Windows 11 Home/Pro (Factory pre-installed or OS-Ready)
	Keyboard	Full-size keyboard with dedicated Numeric Keypad
	Touchpad	Precision touchpad with multi-gesture support
Security	TPM	Firmware-based TPM 2.0
	Physical Lock	Kensington or Nano security lock slot
Power/Build	Battery	Minimum 3-cell Lithium-ion battery (≥ 40 Wh)
	Build & Weight	High-quality ABS/Polycarbonate or Aluminum-reinforced chassis; weight ≤ 2 kg
	Warranty	≥ 1 Year Standard Manufacturer/Vendor Warranty

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Multifunctional Printer Specifications

Category	Specification
Brand	
Model	
Printing Method	Laser Monochrome
Print Speed (A4)	25–40 ppm
Print Resolution	600×600 dpi (Enhanced 1200 dpi)
Warm-Up Time	≤10 seconds
First Printout Time	≤6–8 seconds
Duplex Printing	Auto Duplex
Copy Speed	Same as print speed
Copy Resolution	600×600 dpi
Scanner Type	Flatbed + ADF
ADF Capacity	50–100 sheets
Scan Resolution	Up to 600×600 dpi
Network	Gigabit Ethernet LAN Dual Band WiFi(2.4GHz/5GHz)
USB Interface	USB 3.0 or higher
Wireless	Standard Wi-Fi
Toner Yield (Standard)	3,000 – 4,000 pages
Toner Yield (High Yield)	8,000 – 12,000 pages
Paper Input	250-sheet cassette + 50-sheet MP tray
Paper Output	150–250 sheets
Recommended Monthly Volume	2,000 – 10,000 pages
Max Monthly Duty Cycle	Up to 50,000 pages
Power Requirement	220–240V AC, 50/60Hz
Warranty	1-year onsite (extendable)


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Specifications for Projector

Category	Specification
Brand/Model	
Projection Technology	LCD or DLP (vendor to specify model & tech)
Native Resolution	1080p (1920×1080) or WXGA(1920×1080)
Brightness (ANSI lumens)	≥ 3,500 ANSI lumens
Contrast Ratio	≥ 10,000:1 (dynamic/typical)
Lamp Life	≥ 15,000–30,000 Hours
Light Source	Laser hybrid (Laser Phosphor)
Lens / Throw	Standard throw; vendor to provide throw ratio (e.g., 1.2–1.5:1) and screen size projection chart
Zoom / Focus	Manual/ Optical zoom (e.g., 1.1×–1.5×) and manual focus
Keystone Correction	Vertical (±25–40°), (digital) — Horizontal correction optional;
Lens Shift	Optional (vertical/horizontal)
Image Size (diagonal)	Typically 30" – 300" (vendor to provide screen size chart for throw distance)
Refresh / Frame Rate	60 Hz (support 24/30/60 fps)
Color Wheel / Color Gamut	Vendor to specify (Rec.709 / sRGB coverage recommended)
Input Lag	≤ 50 ms (typical) — specify for interactive / presentation use
Color Brightness (ANSI)	Vendor to specify (if available)
Inputs	HDMI × 1 (minimum) — HDMI 1.4/2.0 specified; VGA IN (D-Sub), USB-A (media / power), USB-Type B
Audio	Built-in speaker (≥ 2–5 W) — recommend external audio via HDMI ARC / audio out for rooms
Outputs	Audio Out (3.5 mm) / Line Out — for external speakers
Control Ports	RS-232, RJ-45 (LAN control) — optional: IR remote, 12V trigger
Network / Wireless	Optional Wi-Fi dongle or built-in network (for content/control) —
Compatibility	Windows / macOS / Linux for screen mirroring via HDMI or optional wireless modules
Operating Environment	0–40 °C; 20–80% RH (non-condensing)
Power Requirement	100–240 V AC, 50/60 Hz (auto)
Dimensions (WxHxD)	Vendor specified (typical: 300–420 × 100–150 × 250–350 mm)
Weight	Vendor specified (typical: 2–6 kg)
Compliance / Safety	CE / RoHS / FCC (or local equivalents)
Warranty	1 year (projector) + lamp warranty as quoted (can be extended for 2/3 yr on mutual understanding)
Certifications / Extras	IEC/EN 60825-1; Eco mode, filter-free design or filter with replacement interval, quick power on/off

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Specifications for 75" Smartboard interactive Display	
Category	Specification
Brand	
Model	
Product Type	75" Interactive Flat Panel Display (IFPD) / Smart Board
Display Size	75 inches (diagonal)
Native Resolution	3840 × 2160 (4K UHD)
Panel Type	IPS / LED (wide viewing angles, high color stability)
Brightness	350–500 cd/m ² (adjustable)
Contrast Ratio	4000:1 or better (manufacturer spec)
Viewing Angle	≥178° (H/V)
Touch Technology	Zero-Bonding Technology
Touch Accuracy / Response	≤2 mm accuracy; <10 ms response (manufacturer spec)
Glass / Surface	Anti-glare, anti-scratch tempered glass (≥6H hardness)
Built-in OS	Android (AOSP) — recommended Android 14+ or vendor's current stable TV/Panel OS
CPU / SoC (Onboard)	Quad-core ARM or better (vendor SKU)
System Memory (RAM)	≥8 GB (typical)
Internal Storage	≥128 GB eMMC (apps & resources)
OPS Slot	Yes — OPS-compatible (Intel OPS form factor) for optional Windows PC module
Connectivity — Wireless	Wi-Fi 802.11 a/b/g/n/ac (Wi-Fi 5) — Wi-Fi 6 optional on higher models
Connectivity — Wired	Ethernet (10/100/1000Base-T) RJ-45
Bluetooth	Bluetooth 5.0 (for pens, peripherals)
HDMI	HDMI × 3 (HDMI 2.0 minimum — HDMI 2.1 optional on premium models)
USB	USB-A × 2 (front / side accessible for media & touch); optional USB-C on some models
USB (Touch)	USB-B (or USB-C) port for touch/data connection to external PC
Screen Sharing	Wireless screen sharing supported
VGA	VGA IN (for legacy sources)
Audio Output / Input	Audio Out (3.5 mm) / Optical S/PDIF (model dependent)
Built-in Speakers	2 × 15 W (stereo) — full range with DSP enhancements
Microphone	6-meter pickup microphone array
Camera	Built-in 48 MP AI with Auto Framing & Speaker Tracking
Smart Pens / Active Pens	2× active smart pens included (pressure sensitivity, palm rejection) — docking/charging cradle preferred
Annotation Software	Interactive Teaching Suite / Whiteboard App included — annotation, multi-user ink, screen recording, split screen, lesson templates, cloud save/export (confirm license type: perpetual vs subscription)
OS Portal / App Support	Google Play / APK side-load (Android) or vendor app store; support for common apps (Zoom, Teams, Chrome, Office viewers)
Mirroring / Casting	Support for Miracast / Chromecast or vendor casting protocol
Touch Drivers	Native Android touch + PC drivers for OPS/Windows via USB
OPS PC Module Options	OPS slot supporting Intel i5/i7 OPS modules or vendor Windows PC module — confirm power & thermal spec
Mounting	VESA compatible (e.g., 600 × 400 mm or vendor standard) — wall mount kit included or optional
Accessories Included	Smart pens (2), wall mount kit or bracket, remote control, power cable, HDMI cable, quick start guide
Warranty	1 year standard; options for 2–3 years on-site extended warranty (confirm SLA and response time)
Power Consumption	Typical: ~200–350 W (model dependent); Standby: <0.5–2 W
Operating Environment	Temperature: 0–40 °C; Humidity: 10–80% RH (non-condensing)
Dimensions (approx)	Varies by bezel: ~1680 × 980 × 70 mm (without stand) — confirm exact model dims
Certification	Google EDLA
Safety / Compliance	CE / RoHS / FCC or equivalent; local electrical compliance if required
Packaging / Shipping	Foam + wooden crate option for safe transit (recommended for institutional orders)
Service & Spare Parts	Local service partner recommended; confirm availability of spare panels / pens / boards
Price Range (estimate)	Market dependent — including installation, wall mount, training, smart pen license, and warranty extension

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Specifications for 75" Smartboard interactive Display	
Category	Specification
Brand/model	
Product Type	75" Interactive Flat Panel Display (IFPD) / Smart Board
Display Size	75 inches (diagonal)
Native Resolution	3840 × 2160 (4K UHD)
Aspect Ratio	16:09
Display Area	Approx. 1650 × 929 mm
Pixel Pitch	~0.429 × 0.429 mm
Refresh Rate	60 Hz
Response Time	≤ 8 ms
Brightness	≥ 350 cd/m ² (typical, vendor confirmed)
Contrast Ratio	≥ 4000:1 (static)
Color Depth	1.07 billion (10-bit)
Viewing Angle	≥ 178° (H/V)
Panel Technology	IPS / DLED backlight
Panel Lifespan	≥ 50,000 hours
Touch Technology	Infrared (IR) / PCAP with Zero-Bonding (multi-touch)
Touch Points	≥ 40 points simultaneous touch
Touch Accuracy	±1 mm
Touch Response	≤ 5 ms
Minimum Object Size	~2 mm
Stylus Support	Dual stylus pens included (passive or active, dual color supported)
Operating System	Android 14.0 or higher
CPU / SoC	Octa-core ARM (e.g., A55 or better)
GPU	Mali or equivalent
System Memory (RAM)	≥ 8 GB
Internal Storage	≥ 128 GB (eMMC/Flash)
Language Support	Multi-language (≥ 20 languages)
Wireless Connectivity	Wi-Fi 802.11 a/b/g/n/ac (dual-band)
Bluetooth	Bluetooth 5.0+ (for peripherals)
USB Ports	2× USB 3.0, 2× USB 2.0 (front/side accessible)
HDMI Ports	3× HDMI IN (HDMI 2.0 min), 1× HDMI OUT
USB Touch/Data	USB-B or USB-C for external PC touch
Type-C Port	1× (DP Alt Mode & power optional)
Network (LAN)	1× RJ-45 Gigabit Ethernet
RS232	1× Serial control port
Audio In/Out	1× Line In, 1× Line Out (3.5 mm), Coax/SPDIF
Built-In Speakers	≥ 2× 18 W stereo or higher
Microphone	Integrated array microphone
Camera	Built-in AI camera (adjustable or integrated)
Interactive Software	Standard Whiteboard with multi-user annotation, export to PDF, handwriting-to-text, shape recognition, math/science tools, collaborative cloud
Screen Sharing	Wireless screen sharing (Miracast/Chromecast or vendor protocol)
Multi-Camera Support	Software support for at least 4 visible cameras simultaneously
OPS Slot	Yes — Intel OPS compatible (optional Windows module)
Legacy Inputs	VGA (optional for legacy sources)
Mounting Standard	VESA compatible (e.g., 600 × 400 mm)
Accessories Included	Power cord, 2 stylus pens, wall mount kit, remote control, quick start guide
Power Input	AC 100–240 V, 50/60 Hz
Max Power Consumption	≤ 400 W
Standby Power	≤ 0.5 W
Operating Temperature	0 – 40 °C
Operating Humidity	10% – 90% RH
Storage Temperature	–20 – 60 °C
Certification & Compliance	CE, FCC, RoHS (and Google EDLA where applicable)
Warranty	1 year standard (extendable up to 3 years on-site)
Installation & Training	Included (transportation and installation support)

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Specifications for Server

S.N.	Item Description	Technical Specifications
1	Form Factor	Rack Mount, 2U
2	Brand/ Model	
3	Processor	2 × Server-grade processors (Intel Xeon Scalable Gen-3 or newer / AMD EPYC equivalent), each with minimum 8 cores and 16 threads, base frequency ≥ 2.2 GHz, turbo frequency ≥ 3.0 GHz
4	Memory	Minimum 64 GB ECC Registered RDIMM (DDR4 or DDR5 as supported by offered server platform), expandable to at least 256 GB or higher
5	Disk Bays	Minimum 8 × 2.5" hot-swap drive bays supporting SAS/SATA SSDs; NVMe support where available on offered model
6	Internal Storage	4 × 960 GB Enterprise-grade SSD or NVMe (Read-Intensive or Mixed-Use)
7	RAID Controller	Hardware RAID controller supporting RAID 0, 1, 5, 10 with battery-backed or flash-backed write cache (4 GB or higher)
8	Network Interfaces	• Minimum 2 × 1 Gbps or 10 Gbps Ethernet ports (RJ45 or SFP+) • Additional 10 Gbps SFP+ ports supported via onboard or PCIe NIC • Required SFP+ transceivers to be included if SFP+ ports are provided
9	Other Ports	• Minimum 2 × USB 3.0 ports (front/rear) • 1 × VGA port • 1 × Serial port (physical or via management interface) • Dedicated IPMI/LAN port for remote management
10	Power Supply	Dual redundant hot-swap power supply units, minimum 80+ Platinum certified
11	Warranty & Support	3 years comprehensive on-site parts replacement warranty and technical support (next business day response preferred)
12	Accessories	All necessary power cables, rail kit for rack mounting, network cables (CAT6/CAT6A), SFP+ transceivers, and any other standard accessories required for full operation
13	Installation & Documentation	Complete supply, installation, rack mounting, RAID configuration, OS readiness (if required), network configuration, testing, and handover with detailed configuration & inventory document

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Specifications for Biometric Attendance Device

S. No.	Particulars	Specifications
1	Brand /Model	
2	Device Type:	Biometric Time & Attendance Terminal
3	Identification Modes:	Fingerprint, RFID Card (Optional), PIN
4	Fingerprint Capacity:	Min 1000 users (Up to 2000 without SSR)
5	Face Capacity:	~ 1000 – 2000 faces
6	Card Capacity:	1000 cards (Optional)
7	Record Capacity:	80,000 logs
8	Verification Speed:	≤ 1 second
9	Fingerprint Sensor:	High-precision optical sensor
10	Display:	Min 2.8-inch or greater TFT Color Screen
11	Camera:	Dual HD infrared camera for face recognition (Anti-spoofing supported)
12	Face Recognition Type:	Infrared + Visible light, works in low-light
13	Keypad:	Soft keypad for PIN entry & navigation
14	Face Detection Range:	0.3m – 2 m
15	Indicators:	Buzzer + Screen notifications
16	Communication:	TCP/IP, USB-Host
17	Data Transfer:	USB flash drive support (SSR mode)
18	Access Control Interface:	Third-party electric lock, exit button
19	Power Supply:	DC 12V, 1.5A
20	Built-in Battery:	Yes (2-4 hours backup)
21	Power Consumption:	Low-power standby supported
22	Operating Temperature:	0°C to 45°C
23	Operating Humidity:	20% – 80% (Non-condensing)
24	Dimensions:	184 × 136 × 37.6 mm
25	Mounting:	Wall-mount bracket included
26	SSR (Self-Service Recorder):	Supported (no PC software required)
27	Network Features:	Push data, automatic syncing (if supported by model)
28	Multi-Verification	Supported
29	On-Device Storage	Supported
30	Shifts & Time Rules:	Multi-shift, holidays, scheduling
31	Languages:	English + multilingual support
32	Warranty:	1–3 years (depending on brand)

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Specifications for 65" Smart TV

Category	Specification
Product Type	65" Smart TV
Brand / Model	
Display Size	65 inches (diagonal)
Resolution	3840 × 2160 (4K UHD)
Panel Type	LED / IPS (wide viewing angles)
HDR Support	HDR10 / HLG (prefer HDR10+) — optional depending on model
Brightness	≥ 400 nits (cd/m ²)
Refresh Rate	60 Hz (typical) — mention if 120 Hz variant is needed
Smart OS	Android TV / Google TV OR webOS OR Tizen (specify preference)
System SoC / CPU	Quad-core or better (vendor specific)
Memory (RAM)	2–3 GB (typical for smart TV OS)
Internal Storage	8–16 GB (for apps & updates)
Wi-Fi	IEEE 802.11 a/b/g/n/ac (Wi-Fi 5) — Wi-Fi 6 optional on higher models
Bluetooth	Bluetooth 5.0 (for remote, soundbar, input devices)
Screen Casting	Built in Wireless Screen Casting , (Miracast / Chromecast built-in (Android TV) / AirPlay (model dependent)
HDMI Ports	Minimum 3 × HDMI 2.0 ; HDMI 2.1 optional on newer models)
USB Ports	Minimum 2 × USB-A (for media playback / firmware update)
Other Inputs	Ethernet (RJ-45), Optical audio (TOSLINK) — model dependent
Panel lifespan	≥ 30,000–50,000 hours
PC connectivity	HDMI + USB for touchless presentation; compatibility with external mini-PC or laptop
Audio	Built-in speakers; 2 × 10–20W (stereo) or equivalent; Dolby/DTS support optional
Audio Output	HDMI ARC/eARC and Optical Out
Video Inputs / Formats	H.264, H.265 (HEVC), VP9; 4K@60fps support
Picture/Display Modes	Standard, Cinema, Game, Vivid, Sports, Custom
Smart Features	App Store (Play Store / LG Content / Samsung Apps), Voice Assistant (Google Assistant / Alexa / Bixby) — model dependent
Remote Control	Standard IR remote; Voice remote optional
VESA Mount	VESA compatible (e.g., 400 × 400 mm) — confirm hole pattern
Accessories Included	Remote, Power Cord, Basic Stand, User Manual; Wall-mount kit
Security / Updates	OS updates via vendor; recommend checking update policy
Power Consumption	Typical: ~120–180 W (model dependent); Standby: <0.5 W
Operating Environment	Temperature: 0–40 °C; Humidity: 20–80% RH (no condensation)
Remote management	firmware update over network (model dependent)
Dimensions (W×H×D)	Varies by model — approx 1440 × 830 × 60 mm (without stand)
Warranty	1 year (standard) — extended/onsite warranty options if needed
Certifications	Energy rating / CE / RoHS (model dependent)
Recommended Usage	Classrooms, Meeting Rooms, Conference, Digital Signage, Home Theatre
Notes to Vendor	Confirm: exact Smart OS variant, Android TV version (if chosen), Wi-Fi standard (6 vs 5), HDMI version (2.0 vs 2.1), built-in Miracast/Chromecast support, included accessories (wall mount?), and local service/parts availability.

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Specifications for Portable PA Sound System

S.N.	Item Description	Technical Specifications
1	Brand /Model	
2	Type	Portable 10-inch Trolley Speaker with extendable handle and wheels
3	Speaker Size	10-inch full-range speaker driver
4	Output Power (RMS)	Minimum 80–120W RMS (or 150–200W Peak) suitable for outdoor school assembly (300+ students)
5	Sound Coverage	Effective coverage ≥ 50 meters for clear voice projection in open areas; suitable for classroom, hall, and assembly use
6	Frequency Response	55 Hz – 18 kHz (approx.)
7	Amplifier Type	Built-in high-efficiency amplifier (Class D or equivalent)
8	Microphone Support	- At least 2 wireless microphones included (UHF preferred) 1 $\times$ wired microphone input (6.3 mm) - Echo/voice control
9	Audio Inputs	- Bluetooth connectivity (≥ 5.0 preferred) - USB input - SD/TF card input - AUX input (3.5 mm) - Guitar input (optional)
10	Audio Controls	- Independent volume control - Bass & Treble control - Mic volume & echo control
11	Display	Basic LED/LCD display for mode & media info
12	Connectivity Features	- Bluetooth wireless streaming - FM Radio (optional)
13	Battery	- Rechargeable built-in battery ≥ 4000–7000 mAh - Playback time 3–6 hours depending on volume - AC charging adapter included
14	Power Options	AC power operation (110–240V) • Battery operation (portable use)
15	Body Material	High-impact ABS plastic or reinforced composite cabinet
16	Portability Features	- Extendable trolley handle - Durable wheels for easy transport
17	Suitable Usage Capacity	- Outdoor school assembly: 300+ students - Indoor hall / multipurpose room: 200+ listeners
18	Dimensions	Approx. 45–55 cm height, 25–35 cm depth, 25–35 cm width (acceptable variations)
19	Weight	Approx. 9–14 kg depending on build/battery size
20	Accessories Included	- Minimum 2 wireless microphones - Remote control If model suggests. - Charging adapter / power cable
21	Safety Features	- Overcharge protection - Battery safety circuit - Overload/thermal protection
22	Warranty	1-year standard warranty (service + parts)

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प्रशासकीय अधिकृत (द्वितीय तह)

विकेन पौडेल
प्रशासकीय अधिकृत

कोशी प्रदेश, नेपाल
मधुवन्तरी, मोरङ
नेपाल

for

सचिना प्रविधि अधिकृत (छैटौ तह)

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विक्रेत पोडेल

प्रमुख प्रशासकीय अधिकृत

Specifications for CCTV

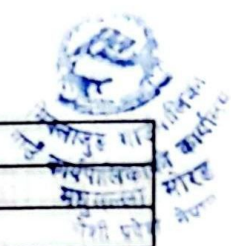


Category	Specification
Brand / Model	
Resolution	≥ 4 MP Camera bullet camera
Image Sensor	CMOS sensor (1/2.7" or similar, higher resolution)
Resolution / Max Output	2688 $\times$ 1520 (4 MP) or higher depending on vendor
Lens (Fixed)	2.8 mm fixed lens (wide angle) — or vendor may offer other fixed-lens variants
Field of View (approx)	Horizontal $\sim 110^{\circ}$ – 120° , Vertical $\sim 60^{\circ}$ – 70° (wider due to higher resolution)
Minimum Illumination / Night Vision Setup	IR-cut filter + IR LED(s), optimized for higher res night capture
Infrared (IR) Night Vision Range	Up to 25–30 m (for acceptable image clarity at night)
Dynamic Range / Light Handling	WDR / BLC / HLC / digital noise reduction, improved sensor for better clarity in high contrast
Video Compression / Streaming	H.264 / H.265, main + sub-stream support; compression helps reduce storage/bandwidth
Frame Rate (Max)	20–25 fps @ 4 MP (or as per vendor spec) — check if full-frame required
Network / Connectivity	RJ-45 Ethernet 10/100/1000 Mbps (or 10/100), PoE support
Power Supply (alternative)	12 V DC (backup) + PoE support
Housing / Weatherproof Rating	IP66 / IP67 — robust weather/dust resistance for outdoor deployment
Housing Material	Metal / weather-resistant housing; secure mount and tamper-resistance
Operating Environment	Similar range or as per vendor spec (check for "outdoor rated")
Storage / Compatibility	ONVIF compliance; support for SD-card (optional) + NVR for recording
Audio / Alarm (Optional)	Optional built-in mic / alarm I/O — confirm support if needed
Lens Mount	Fixed-lens, M12 (or vendor's fixed-lens mount)
Access	Should be browse through the same network or ipsec vpn tunnel network,
Warranty / Support	1–3 years warranty; availability of spare parts & service support

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 प्रमुख प्रशासकीय अधिकृत

Specifications for CCTV



Category	Specification
Brand /Model	
Camera Type	Fixed-lens IP Dome Camera
Image Sensor	CMOS sensor (1/2.7" or better)
Resolution / Max Output	≥ 4 MP (2688 × 1520) or higher
Lens (Fixed)	2.8 mm fixed lens (wide angle); optional 4.0 mm variant
Field of View (Approx.)	Horizontal ~100°–110°, Vertical ~55°–60°
Frame Rate (Max)	Up to 20–25 fps @ 4 MP (as per vendor spec)
Video Compression	H.265 / H.264; dual stream (main + sub-stream)
Minimum Illumination / Night Vision Setup	IR-cut filter + integrated IR LED(s)
Infrared (IR) Night Vision Range	Up to 20–25 m
Dynamic Range / Image Enhancement	WDR / BLC / HLC / 3D-DNR for balanced lighting
Day / Night Mode	Auto / Color / B&W with IR
Network Interface	RJ-45 Ethernet (10/100 Mbps); PoE supported
Power Supply (Alternative)	12 V DC ±10% (backup) + PoE
PoE Standard	IEEE 802.3af
Housing / Protection Rating	IP66 (weather resistant); indoor/outdoor suitable
Vandal Resistance	IK10 vandal-resistant dome (recommended for public areas)
Housing Material	Metal base with polycarbonate dome cover
Mounting Type	Ceiling mount / wall mount / junction box support
Operating Temperature	–10 °C to +55 °C (or better)
Operating Humidity	≤ 90% RH (non-condensing)
Audio (Optional)	Built-in microphone (model dependent)
Storage / Compatibility	ONVIF compliant; optional micro-SD card support
Remote Access	Accessible via local network or IPsec / VPN tunnel
Use Case	Indoor corridors, classrooms, offices, entrances, halls
Warranty / Support	1–3 years warranty; local service & spare availability

विशाल विजारे
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विफन पांडे
प्रशासकीय अधिकृत

Specifications for NVR

SN	Category	Specification
1	Manufacturer, Brand Name	Must be specified by the bidder
2	Model No	Must be specified by the bidder
3	Device Type	Network Video Recorder (NVR)
4	IP Camera Input Channels	Up to 16 channels
5	Supported Camera Resolution	Up to 12 MP
6	Video Compression	H.265+, H.265, H.264+, H.264
7	Incoming Bandwidth	160 Mbps (minimum)
8	Outgoing Bandwidth	128 Mbps (minimum)
9	Decoding Capacity	2-ch @ 12 MP, 2-ch @ 8 MP, 4-ch @ 4 MP, or equivalent
10	Playback	16-channel synchronous playback
11	Video Output	HDMI (4K) + VGA
12	Storage (HDD)	2 × SATA interfaces, up to 10 TB per HDD
13	AI Features	Face recognition, Motion Detection 2.0, Perimeter Protection (camera-dependent)
14	Protocols	ONVIF, SDK, ISAPI
15	Network Port	1 × RJ-45 10/100/1000 Mbps Ethernet
16	USB Ports	Minimum 2 × USB (for backup/export)
17	Power Supply	12 V DC, approx. 3.33 A
18	Operating Temperature	-10 °C to +55 °C
19	Mounting Type	Desktop / Rack-mount (rack kit optional)
20	Warranty	Minimum 2 years

हिमाल सिगिरे
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प्रमुख प्रशासकीय अधिकृत

Specifications For 8 port PoE Switch	
Item	Specification
Brand / Model	
Product Type	Unmanaged PoE Ethernet Switch
PoE Ports	Minimum 8 × PoE Ethernet ports (IEEE 802.3af/at compliant)
Uplink Ports	Minimum 2 × Gigabit uplink ports (RJ-45)
Total Ports	Minimum 10 ports (8 PoE + 2 uplink)
PoE Power Budget	≥ 120 W total PoE power budget
Maximum PoE Output per Port	Up to 30 W per port
PoE Standard	IEEE 802.3af / 802.3at
Switching Capacity	≥ 20 Gbps
Packet Forwarding Rate	≥ 14.8 Mpps
Surge Protection	Built-in surge protection (≥ 4 kV recommended)
Mounting Type	Desktop / Wall-mount / Rack-mount (adapter optional)
Cooling	Fanless (preferred for silent operation)
Indicators	Power, PoE, Link/Activity LED per port
Operating Temperature	0 °C to 45 °C
Power Supply	Internal AC PSU or external DC adapter
Application	IP CCTV cameras, access control, VoIP
Warranty	Minimum 1 year

Specifications For 16 port PoE Switch	
Item	Specification
Brand Model	
Product Type	Unmanaged PoE Ethernet Switch
PoE Ports	Minimum 16 × PoE Ethernet ports (IEEE 802.3af/at compliant)
Uplink Ports	Minimum 2 × Gigabit uplink ports (RJ-45)
Total Ports	Minimum 18 ports (16 PoE + 2 uplink)
PoE Power Budget	≥ 200 W total PoE power budget
Maximum PoE Output per Port	Up to 30 W per port
PoE Standard	IEEE 802.3af / 802.3at
Switching Capacity	≥ 36 Gbps
Packet Forwarding Rate	≥ 26.8 Mpps
Surge Protection	Built-in surge protection (≥ 6 kV recommended)
Mounting Type	Rack-mountable (1U)
Cooling	Fan-cooled with smart thermal control
Indicators	Power, PoE, Link/Activity LED per port
Operating Temperature	0 °C to 45 °C
Power Supply	Internal AC PSU
Application	Medium-scale CCTV systems, IP phones, wireless APs
Warranty	Minimum 1 year

प्रमुख प्रशासकीय अधिकृत
विक्रम पौडेल

अधिकृत (घिटी तह)



Specifications for monitor for cctv	
Item	Specification
Monitor Type	LED/LCD display with HDMI and VGA
Size	22" recommended
Resolution	Minimum Full HD (1920 × 1080)
Inputs	HDMI and VGA
Mounting	Desk stand; wall mount optional
Response Time	≤ 5 ms
Brightness	≥ 250 cd/m ²
Contrast Ratio	≥ 1000:1
Viewing Angle	≥ 178°
Speakers	Built-in speakers (optional)
Power	AC 220–240 V
Warranty	Minimum 1 year


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बिकेन पौडेल
प्रमुख प्रशासकीय अधिकृत

Specifications for CAT-6 Cables

Item	Specification
Cable Type	UTP/STP Cat6 network cable
Standard Compliance	ANSI/TIA/EIA Cat6 or better
Conductor	23/24 AWG Copper (solid 100%)
Bandwidth	≥250 MHz
Length	As per site layout requirements (meter-wise supplied)
Jacket Rating	PVC/LSZH (Low Smoke Zero Halogen) per site requirement
Connector Compatibility	RJ45 8P8C shielding compatible
Testing	100% continuity and length tested
Warranty	Supplier warranty for workmanship

Specifications for Hard Disk for NVR

Item	Specification
Type	3.5" Surveillance Internal HDD
Capacity	Minimum 4 TB per drive (recommended 6-10 TB based on retention period)
Workload Rating	≥ 180 TB/year workload rate
Cache	≥ 64 MB
Interface	SATA 6 Gb/s
RPM	7200 RPM or equivalent optimized for surveillance
Designed For	24/7 surveillance recording workload
Operating Temp/Humidity	Standard HDD environmental ranges
Warranty	Minimum 1 year

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