

Annex I

Minimum Technical Specifications for Branded Desktop Computer

Minimum Specification		Confirm to the Specification		Bidders Response
		Yes	No	
Country of Origin				
Processor	10 th Generation Intel Core i7-10700 Processor (2.9 GHz base frequency, up to 4.8 GHz, 16 MB L3 cache, 8 cores			
Chipset	Intel® Q470 Chipset			
Memory	16GB (2x8GB) DDR4-3200 SDRAM Transfer rates up to 2933 MT/s			
Monitor	Same Brand 23" LED 16:9 (1920 x 1080) at 60Hz HDMI/ Display Port			
Form factor	Micro tower			
Hard Drive	Minimum 1 TB SATA hard drive (7200RPM)			
Solid State Drives (SSD)	128 GB Intel Optane Memory H10 with Solid State Storage			
Optical Drive	DVD+/-RW			
Communications	LAN :10/100/1000 Gigabit Ethernet			
Wireless	Intel Wi-Fi 6 AX201 802.11ax (2x2) with Bluetooth M.2 Combo Card vPro			
Graphic adapter (Discrete)	AMD Radeon R7 430 Graphics (2 GB GDDR5 dedicated)			
Ports, Slots & Chassis	10 External 6 USB 3.1 (2 front/4 rear) and 4 2.0 (2 front/2 rear) 1 front with Power Share 1 x RJ-45 2 x DisplayPort 1.2 1 x HDMI 1.4 1 x Universal Audio Jack 1 x Line-out			
Power	550 W internal power adapter, up to 92% efficiency			

Energy Efficiency Compliance	ENERGY STAR			
keyboard	Standard USB keyboard Same brand			
Mouse	Same brand USB laser Mouse			
Security	Lock slot			
OS	Windows 11 Pro (64 bit preloaded)			
Device Drivers	Compatible Drivers for all devices should be supplied			
Product Experiences	Vender should have minimum of 5 years in selling the Quoted brand in Sri Lanka (Pls attach the proof doc)			
Warranty	3 Years comprehensive on-site warranty inclusive of Parts and Labour for ALL system components and peripheral devices supplied (note: a copy of the warranty terms and conditions of the Bidder must be submitted with the Bid document)			

Annex II

General Specification for Mid-Range office Computers

* Bidders are required to mark (✓) if the requirement complies, otherwise mark (x).

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
	Brand	<i>Please specify</i>			
	Model	<i>Please specify</i>			
	Country of Origin	<i>Please specify</i>			
	Detailed Specification	<i>Must be attached</i>			
1.	Processor				
1.1	Processor Type	<ul style="list-style-type: none"> • Intel Core i5 • Cores/Threads: 6/12 (or higher) • InstructionSet: 64-bit • Generation: 10 (or latest) 			
1.2	External Rated Clock Speed	<ul style="list-style-type: none"> • Base Frequency: 2.5 GHz (or faster) • Turbo Frequency: 3.6 GHz (or faster) 			
1.3	Internal Cache Memory	Cash Memory – 8 MB (or larger)			
2.	System Board				
2.1	Type and Architecture	Intel compatible chipset based system board <i>(note: Proposed chipset must be certified by the processor manufacturer as compatible with the processor)</i>			
2.2	Main Memory	<ul style="list-style-type: none"> • Capacity: 8 GB (or higher) • Speed: DDR4-2666 MHz (or faster) <i>(note: Memory must be expandable up to 16 GB or higher)</i>			
2.3	Graphic Adapter and Interface	<ul style="list-style-type: none"> • Card: Integrated hardware graphic accelerator • Memory: 512 MB graphic memory (or higher) • Video Ports: Display port and HDMI or VGA Port with Cables 			
2.4	Network Interface	10/100/1000 Mbps full-duplex Ethernet Port with RJ45 connector			
2.5	IO Ports	<ul style="list-style-type: none"> • PCI Ports: At least 2 unused PCI Express expansion ports confirming to PCI Express Ver 3.0 (PCIe 3.0) or later specifications 			

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
		<ul style="list-style-type: none"> At least 6 ports, 2 of which confirming to USB Ver. 3.0 specification (or higher) SATA Ports: At least 2 SATA ports 			
3.	Storage				
3.1	Hard Disk Drive	<ul style="list-style-type: none"> Capacity: 1 TB (or higher) Speed: 7,200 rpm (or faster) Interface: SATA (or better) 			
3.2	Optical Storage	16× DVD+RW drive with SATA interface			
4.	Multimedia				
4.1	Audio Interface	<ul style="list-style-type: none"> High-definition audio Microphone-in Line-out connections 			
5.	Display Device				
5.1	Monitor	<ul style="list-style-type: none"> Size: 17" LCD Resolution: 1,600×900 (or higher) Features: LED Backlight, Anti-Glare Video Input: Display port and HDMI or VGA Port with Cables (<i>must be compatible with video output of motherboard</i>) 			
6.	Power Supply Unit				
6.1	Power	<ul style="list-style-type: none"> 110/230 V nominal input (180V to 250V) 50/60 Hz (47Hz – 63Hz) 3-pin square AC plug 			
6.2	Rated Capacity	At least 240W (or higher) rated for continuous operation with forced circulation cooling system.			
7.	Chassis				
7.1	Form Factor	ATX, slim tower form factor			
7.2	Security Features	<ul style="list-style-type: none"> Manual lockable side openings Security lock slot 			
8.	Standard Peripheral Devices				
8.1	Keyboard	Full-size keyboard with Numeric keypad			
8.2	Mouse	USB Optical mouse			
9.	Software Requirements and Compatibility				

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
9.1	Operating System	The system should be compatible with 64-bit Windows 11 and Ubuntu 18 (or latest)			
9.2	Drivers for System and Peripherals	Manufacturers device drivers for all system components supporting the following operating systems: <ul style="list-style-type: none"> • 64-bit Windows 11 • 64-bit Ubuntu 18 /Linux 			
10.	Standard Compliance and Warranty				
10.1	Standard Compliance	The system must be manufactured by an ISO 9000 certified manufacturer. <i>(note: Copy of ISO certification and original Manufacture Authorization Letter must be attached)</i>			
10.2	Warranty	3-year comprehensive warranty inclusive of Parts and Labour for ALL system components and peripheral devices supplied <i>(note: Copy of the warranty terms and conditions of the Bidder must be submitted with the Bid document)</i>			

(Please use separate sheets for optional offers.)

Document Ver. 2022/01

Annex III

General Specification for Standard Office / Laboratory Computers

* Bidders are required to mark (√) if the requirement complies, otherwise mark (×).

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
	Brand	<i>Please specify</i>			
	Model	<i>Please specify</i>			
	Country of Origin	<i>Please specify</i>			
	Detailed Specification	Must be attached			
1.	Processor				
1.1	Processor Type	<ul style="list-style-type: none"> • Intel Core i7 • Cores/Threads: 6/12 • Instruction Set: 64-bit • Generation: 10 or latest 			
1.2	External Rated Clock Speed	Base Clock Rate 2.5 GHz (or faster) and Turbo clock rate 3.2 GHz or higher			
1.3	Internal Cache Memory	Level 3 Cash – 8 MB (or larger)			
2.	System Board				
2.1	Type and Architecture	Intel compatible chipset based system board <i>(note: Proposed chipset must be certified by the processor manufacturer as compatible with the processor)</i>			
2.2	Main Memory	<ul style="list-style-type: none"> • Capacity: 4 GB (or higher) • Speed: DDR4-2666 MHz (or faster) <i>(note: Memory must be expandable up to 16 GB or higher)</i>			
2.3	Graphic Adapter and Interface	<ul style="list-style-type: none"> • Card: Integrated hardware graphic accelerator • Memory: 1 GB graphic memory (or higher) • Video Ports: VGA, HDMI 			
2.4	Network Interface	10/100/1000 Mbps full-duplex Ethernet Port with RJ45 connector			
2.5	IO Ports	<ul style="list-style-type: none"> • PCI Ports: At least 1 unused PCI Express expansion ports confirming to PCI Express Ver 3.0 or later specifications • At least 6 ports, 2 of which confirming to USB Ver. 3.0 specification (or higher) • SATA Ports: At least 2 SATA ports 			

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
3.	Storage				
3.1	Hard Disk Drive	<ul style="list-style-type: none"> • Capacity: 1 TB (or higher) • Speed: 7,200 rpm (or faster) • Interface: SATA (or better) 			
3.2	Optical Storage	16× DVD+RW drive with SATA interface			
4.	Multimedia				
4.1	Audio Interface	<ul style="list-style-type: none"> • High-definition audio • Microphone-in • Line-out connections 			
5.	Display Device				
5.1	Monitor	<ul style="list-style-type: none"> • Size: 17" LED Display • Resolution: 1,920×1080 (or higher) • Features: LED Backlight, Anti-Glare • Video Input: VGA and HDMI (<i>must be compatible with video output of motherboard</i>) 			
6.	Power Supply Unit				
6.1	Power	<ul style="list-style-type: none"> • 110/230 V nominal input (180V to 250V) • 50/60 Hz (47Hz – 63Hz) • 3-pin square AC plug 			
6.2	Rated Capacity	At least 180W (or higher) rated for continuous operation with forced circulation cooling system.			
7.	Chassis				
7.1	Form Factor	ATX, slim tower form factor			
7.2	Security Features	<ul style="list-style-type: none"> • Manual lockable side openings • Security lock slot 			
8.	Standard Peripheral Devices				
8.1	Keyboard	Full-size keyboard with Numeric keypad			
8.2	Mouse	USB Optical mouse			
9.	Software Requirements and Compatibility				
9.1	Operating System	The system should be compatible with 64-bit Windows 10 and Ubuntu 16 (or latest)			
9.2	Drivers for System and Peripherals	Manufacturers device drivers for all system components supporting the following operating systems:			

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
		<ul style="list-style-type: none"> • 64-bit Windows 11 • 64-bit Ubuntu 18/Linux 			
10.	Standard Compliance and Warranty				
10.1	Standard Compliance	The system must be manufactured by an ISO 9000 certified manufacturer. <i>(note: Copy of ISO certification and original Manufacture Authorization Letter must be attached)</i>			
10.2	Warranty	3-year comprehensive warranty inclusive of Parts and Labour for ALL system components and peripheral devices supplied <i>(note: a copy of the warranty terms and conditions of the Bidder must be submitted with the Bid document)</i>			

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Document Ver. 2022/01

General Specification for High-end Workstation Computers

Attachment [7]

* Bidders are required to mark (✓) if the requirement complies, otherwise mark (×).

No.	Description	Requirement	Supplier's Response		Remarks
			Yes	No	
	Brand	<i>Please specify</i>			
	Model	<i>Please specify</i>			
	Country of Origin	<i>Please specify</i>			
	Detailed Specification	Must be attached			
1.	Processor				
1.1	Processor Type	<ul style="list-style-type: none"> Intel Xeon W-2175 Series or higher Cores/Threads: 14/28 (or higher) InstructionSet: 64-bit 			
1.2	External Rated Clock Speed	<ul style="list-style-type: none"> Base Frequency: 2.5GHz (or faster) Turbo Frequency: 4.3GHz (or faster) 			
1.3	Internal Cache Memory	Level 3 Cache – 19MB (or larger)			
2.	System Board				
2.1	Type and Architecture	Intel C422 chipset <i>(note: Proposed chipset must be certified by the processor manufacturer as compatible with the processor)</i>			
2.2	Main Memory	<ul style="list-style-type: none"> Capacity: 32GB (or higher) Speed: DDR4-2666MHz ECC & RMT (or faster) <i>(Note: Memory expandable up to 128GB or higher is preferred)</i>			
2.3	Graphic Adapter and Interface	<ul style="list-style-type: none"> Card: Integrated hardware graphic accelerator Memory: NVIDIA 4GB graphic memory (or higher) 			
		<ul style="list-style-type: none"> GPU Memory Type: GDDR5 Max Power Consumption: 47W Max Simultaneous Displays: 4 direct, 4 DP 1.4 Multi-Stream 			
2.4	Network Interface	10/100/1000 Mbps full-duplex Ethernet Port with RJ45 connector			
2.5	IO Ports	<ul style="list-style-type: none"> PCI Ports: At least 2 un-used PCI Express expansion ports confirming to PCI Express Ver 3.0 (PCIe 3 × 4) or later specifications SATA Ports: At least 4 SATA ports Memory: At least 2 unused DDR4 compatible DIMM slots for memory expansions 			

No.	Description	Requirement	Supplier's Response		Remarks
			Yes	No	
		<ul style="list-style-type: none"> • Memory card reader - SD 4.0 media card reader • USB: 2 x USB 2.0 Type-A port (Front), 1 x USB 3.1 Gen 2 Type-C port (Front), 1 x USB 3.1 Type-A port (Front), 4 x USB 3.1 Gen 1 port (Rear, with Smart Power), 2 x USB 2.0 ports (Rear, with Smart Power) 			
		<ul style="list-style-type: none"> • Security: Noble Wedge/Kensington lock slot 			
		<ul style="list-style-type: none"> • Audio: Universal audio jack (Front / Rear) 			
		<ul style="list-style-type: none"> • Video: 2 x DisplayPorts DisplayPort/HDMI/VGA/USB Type-C (optional) 			
		<ul style="list-style-type: none"> • Serial port: 1 x serial port 			
		<ul style="list-style-type: none"> • PS/2: 1 x PS/2 Keyboard, 1 PS/2 Mouse 			
3.	Storage				
3.1	Hard Disk Drive	<ul style="list-style-type: none"> • Capacity: 2 TB (or higher) • Speed: 7,200 rpm (or faster) • Interface: SATA (or better) • M.2 512GB PCIe NVMe Class 40 SSD 			
3.2	Optical Storage	8x DVD+RW drive with SATA interface			
3.3	Keep the Hard Drive Service	"When there is a failure in the Hard Disk University is unable to return the faulty Hard Drive due to the Data security" Manufacture confirmation letter should be provided for the same.			
5.	Display Device				
5.1	Monitor	<ul style="list-style-type: none"> • Size: 24" LCD or better • Resolution: 1,920x1080 (or higher) • Aspect Ratio: 16:9 Widescreen • Features: LED Backlight, Anti-Glare • Video Input: VGA, DisplayPort 1.2 <i>must be compatible with video output of motherboard</i> 			
6.	Power Supply Unit				
6.1	Power	<ul style="list-style-type: none"> • 110/230 V nominal input (180V to 250V) • 50/60 Hz (47Hz - 63Hz) • 3-pin square AC plug 			
6.2	Rated Capacity	At least 300W EPA bronze (or higher) rated for continuous			

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
		operation with forced circulation cooling system.			
7.	Chassis (All-in-one also preferable)				
7.1	Form Factor	ATX, tower form factor			
7.2	Security Features	<ul style="list-style-type: none"> • Manual lockable side openings • Security lock slot 			
8.	Standard Peripheral Devices				
8.1	Keyboard	Full-size keyboard with Numeric keypad			
8.2	Mouse	USB Optical mouse			
9.	Software Requirements and Compatibility				
9.1	Operating System	The system should be compatible with 64-bit Windows 11 Pro for workstations and Ubuntu 20 (or latest)			
9.2	Drivers for System and Peripherals	Manufacturer's device drivers for all system components supporting the following operating systems: <ul style="list-style-type: none"> • 64-bit Windows 11 Pro for workstations • 64-bit Ubuntu/Linux20 			
10.	Standard Compliance and Warranty				
10.1	Standard Compliance	The system must be manufactured by an ISO 9000 certified manufacturer. <i>(note: Copy of ISO certification and original Manufacture Authorization Letter must be attached)</i> Vendor should attach Energy Star Certificate			
10.1	Spare Parts Availability	Original Equipment Manufacture should maintain all required spare parts in an independent part deport located within Colombo City. Manufacture confirmation letter should be provided for the same.			
10.2	Warranty	3-year comprehensive warranty inclusive of Parts and Labour for ALL system components and peripheral devices supplied and 5-year service warranty. <i>(note: a copy of the warranty terms and conditions of the Bidder must be submitted with the Bid document)</i>			

(Please use separate sheets for optional offers.)

Document Ver. 2019 08

Annex V

General Specification for High-End Laptop Computer

* Bidders are required to mark (✓) if the requirement complies, otherwise mark (x).

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
	Brand	<i>Please specify</i>			
	Model	<i>Please specify</i>			
	Country of Origin	<i>Please specify</i>			
	Detailed Specification	Must be attached			
1.	Processor				
1.1	Processor Type	<ul style="list-style-type: none"> • Intel Core i7 • Cores/Threads: 6/12 or higher • InstructionSet: 64-bit • Generation: 10 or higher 			
1.2	External Rated Clock Speed	<ul style="list-style-type: none"> • Base Frequency: 3.2 GHz or faster • Turbo Frequency: 4.6 GHz or faster • Generation 10 or higher 			
1.3	Internal Cache Memory	<ul style="list-style-type: none"> • Level 3 Cache – 8MB (or larger) 			
2.	Display				
2.1	Screen	<ul style="list-style-type: none"> • Size: 15.6" FHD • Resolution: 1,920×1080 or higher • Features: LED Backlight, Anti-Glare 			
3.	System Board				
3.1	Type and Architecture	Intelcompatible chipset based system board <i>(note: Proposed chipset must be certified by the processor manufacturer as compatible with the processor)</i>			
3.2	Main Memory	<ul style="list-style-type: none"> • Capacity: 8 GB (or higher) • Speed: DDR4-2666 MHz or faster <i>(note: memory must be expandable up to 16 GB or higher)</i>			
3.3	Graphic Adapter and Interface	<ul style="list-style-type: none"> • Card: Integrated hardware graphic accelerator • Memory: 2GB graphic memory or higher • Video Ports: VGA or HDMI 			
3.4	Audio Interface	<ul style="list-style-type: none"> • High-definition audio • Microphone-in • Line-out connections 			

No.	Description	Requirement	Supplier's Response		Remarks
			Yes	No	
3.5	IO Ports	<ul style="list-style-type: none"> At least 3 USB ports, 1 of which confirming to USB Ver. 3.0 specification or higher and 1 USB-C. 			
4.	Storage				
4.1	Hard Disk Drive	<ul style="list-style-type: none"> Capacity: 1 TB (or higher) 1 TB PCIe® NVMe™ M.2 SSD 			
4.2	Optical Storage	DVD±RW drive (Super Multi Double Layer Drive)			
5.	Multimedia				
5.1	Speakers	<ul style="list-style-type: none"> Integrated Stereo Speakers 16-bit Stereo with Intel^R high definition audio support (or equivalent) 			
5.2	Microphone	Built in			
5.3	Web Camera	Built-in HD Camera 720p (or higher)			
6.	Communication				
6.1	Network interface	10/100/1000 Mbps full-duplex Ethernet Port with RJ45 connector			
6.2	Wi-Fi	Integrated 802.11b/g/n			
6.3	PAN	Bluetooth 4.0 (or latest)			
7.	Standard Peripheral Devices				
7.1	Keyboard	Full-size keyboard with numeric keypad			
7.2	Pointing Device	Touchpad with multi-gesture support			
8.	Power Supply Unit				
8.1	Power	<ul style="list-style-type: none"> 110/230 V nominal input 50/60 Hz 3-pin square AC plug 			
8.2	Battery	Capacity – 45WHour battery (or higher)			
9.	Chassis				
9.1	Weight	2.5 Kg (or lower)			
9.2	Carrying case	Need to be provided			
10.	Software Requirements and Compatibility				
10.1	Operating system	The system should be compatible with 64-bit Windows 11 and Ubuntu 18 (or latest)			
10.2	Drivers for system and peripherals	Manufacturers device drivers for all system components supporting the following operating systems: <ul style="list-style-type: none"> 64-bit Windows 11 			

No.	Description	Requirement	*Supplier's Response		Remarks
			Yes	No	
		<ul style="list-style-type: none"> • 64-bit Ubuntu 18/Linux 			
11.	Standard Compliance and Warranty				
11.1	Standard compliance	<p>The system must be manufactured by an ISO 9000 certified manufacturer.</p> <p><i>(note: Copy of ISO certification and original Manufacture Authorization Letter must be attached)</i></p>			
11.2	Warranty	<p>3-year comprehensive warranty inclusive of Parts and Labour for ALL system components and peripheral devices supplied including battery and power adapter.</p> <p><i>(note: Copy of the warranty terms and conditions of the Bidder must be submitted with the Bid document)</i></p>			

(Please use separate sheets for optional offers.)

Document Ver. 2022/01

Annex v 1

TECHNICAL SPECIFICATION FOR SMART INTERACTIVE PANEL

DESCRIPTION		MINIMUM REQUIREMENT	BIDDER'S COMPLIANCE YES/NO	IF "NO" COMMENT/S ON THE OFFER
Brand				
Model				
Country of Origin & Country of Manufacture/ Assembly				
DISPLAY	Panel size:	85"		
	Type/tech	IR touch		
	Aspect ratio:	16:9		
	Native resolution:	UHD 3840x2160 (4K) or above		
	Brightness:	350 nits (minimum)		
	Contrast ratio:	4000: 1 or above		
	Response time	<8 ms		
	Colors:	1.07 billion colors		
	Backlight life:	50,000 Hours or more		
	Surface	4mm Thickness Anti-Glare glass		
Viewing Angle	178 degree			
TOUCH SCREEN	Technology	IR Recognition		
	Touch capability	Multi touch 40 points and writing 20 points		
OPERATION SYSTEM	Embedded OS:	Capability of Shifting from android to windows without restart the machines. Boot up facility with both windows and android. [without depending each other(Windows and Android)]		

Platform	Android	Processor	Cortex A53*4 1.5GHz		
		Ram	3GB DDR4 or above		
		Storage	32 GB (minimum)		
		Version	Android version 8 or 9		
CONNECTIVITY	Input / Output	USB 2.0, VGA in, HDMI 2.0 Out, Display port, VGA in, VGA audio in, AV out, AV in, Earphone, YP8PR, RS232, Touch out USB, RJ45 in & out, TF card slot, Windows OPS Slot			
	WIFI, Bluetooth				
SPEAKERS	SPEAKERS:	15W*2			
USB SUPPORTED FILE FORMAT	Picture	BMP, JPEG, PNG, JPG, TIF,			
	Video	MPEG I&2, MPEG2-PS, MPEG4, MKV MPG, MP4, MOV, VOB, DAT			
	Audio	MPEG I&2, HEAAC, AAC MP3 , M4A			

ACCESSORIES	Connectivity	IWB Pen without ink 2pcs, Remote Control, 1.5m Power cable, 1.5m HDMI Cable, USB Extension Cable		
	Holders / Stands	Manual height-adjustable mobile cart		
	User's manual	Should be supply		
POWER	Power Supply	100-240V AC		
	Power Consumption	"Maximum < 290W Eco < 75W"		
OS	Build in windows Operating system	Genuine Microsoft Windows 10 Pro with License		
Microsoft Office	Application Software	Microsoft Office 2019 with Academic License		
OTHERS	Moveable Stand	should be stable with the weight of the panel well finished and powder coated four Caster Wheel, should have a tray, suitable stand for laptop and pens.		
	Certificates	CE, FCC, ROHS, ISO9001, ISO14001, ISO18001		
	Warranty	3 years Warranty		

