

Specification of approved MODROB items for ECE

Sr. No.	Item	Configuration Parameters	Configuration
1	Portable Computing Device (Laptop Computer)	Operating System	Windows 10
		Display	14 inch LED Display
		Processor	Intel Core i7-7500U Processor ; 3.50GHz 4 MB Cache, 7th Generation Processor
		Memory	8 GB DDR-4 -2400 RAM
		Storage Drive	1 TB- 7200 rpm Hard Disk Drive
		Ports	4 USB 3.0; 1 VGA; 1 HDMI; 1 headphone/microphone combo jack; 1 AC power; 1 RJ-45
		Graphics	Intel® HD Graphics 620, Integrated, AMD Radeon/NVIDIA
		Pointing Device	Touchpad with multi-touch gestures enabled, taps enabled as default, default on for 2-finger scroll and pinch
		Optical Drive	DVD-RW
		Wireless Connectivity	Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.0 Combo
		Bundled Software	Three Years Antivirus
		Warranty	Three Years onsite-Warranty.
2	High Storage & Processing Data Server	Operating System	Windows Server
		Display	14 inch LED Display
		Processor	Intel Xeon- QuadCore Processor, Intel Xeon E3-1220v5 – 3.0 GHz , 4-Core , 8 MB cache, 80 Watt
		Memory	8 GB- ECC 1600 U memory
		Storage Drive	HOT Swap 500 GB X 2 Hard Disk Drive
		Optical Drive	DVD-RW
		Ports	HPE – Ethernet (NIC) Port with 10/100/1000
		Keyboard & Mouse	HPE Keyboard & Mouse
		Power Supply	HPE 350 watt Power Supply
		Wireless Connectivity	Wifi

		Warranty	3-3-3 onsite warranty.
3	High Photo Quality Printing / Scanning / Xerox Instrument	Functions	Print, Copy, Scan
		Print Speed Black	Normal: upto 18ppm
		First Page Out (Ready)	Black: as fast as 8.5 sec
		Duty Cycle (Monthly, A4)	Upto 8000 Pages
		Recommended Monthly Page Volume	250 to 2000
		Print Technology	Laser
		Print quality black (best)	Up to 600 x 600 dpi (1200 dpi effective)
		Print Resolution Technologies	FastRes 600; FastRes 1200
		Print languages	Host-based
		Display	Dual digit numeric LED
		Processor speed	400 MHz
		Replacement cartridges	HP LaserJet Black Print Cartridge CC388A
		Connectivity, standard	Hi-Speed USB 2.0 port
		Minimum system requirements	Microsoft® Windows® 7, Windows Vista®, Windows® XP, Windows® Server 2003: 1 GHz processor, 1 GB RAM, 700 MB free hard disk space, SVGA 800 x 600 with 16-bit colour display, Internet Explorer 5.5 or higher, USB or Ethernet port
			Mac OS X v 10.4, v 10.5, v 10.6
			PowerPC G3, G4, G5, or Intel processors
1 GB RAM			
200 MB available hard disk space			
CD-ROM drive			
Compatible operating systems	Windows 8, Windows 7, Windows Vista, Windows XP, Windows Server 2003, Windows Server 2008		

		Mac OS X v10.4, v10.5, v10.6	
	Memory	8 MB	
4	Digital Storage Oscilloscope (DSO)	Bandwidth	100MHz
		Realtime Sample Rate	1GSa/s (Single Channel)
		Equivalent Sample Rate	50GSa/s
		Number of Channels	2 CH
		Memory Depth	2Mpts
		Acquisition Modes	Normal/Average/Peak Detect
		Average	Selectable from 4 to 256
		Vertical Sensitivity	2mV/div - 5V/div (1-2-5 Sequence)
		Vertical Resolution	8bits
		RiseTime	<3.5ns
		Input Impedance	1 MΩ 13 pF
		Input Coupling	DC, AC and GND
		Maximum Input Voltage	±400Vpp
		Timebase Range	2.5ns - 50s/div
		Time Base Accuracy	±100ppm measured over 10ms interval
		Trigger Sources	CH1, CH2, Ext, Ext /5, AC Line
		Trigger Modes	Auto, Normal, Single
		Trigger Type	Edge, Pulse Width, Slope, Video, Alternate
		Trigger Coupling	AC, DC, LF rej, HF rej
		Auto Measure	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FPRESshoot, Rise time, Fall time, Freq, Period, + Wid, -Wid, +Dut, -Dut, BWid, Phase, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF FOVShoot, RPRESshoot,
		Cursor Measure	Manual, Track and Auto measure mode
		Maths	+, -, ×, /, FFT
		Digital Filter	High Pass, Low Pass, Band Pass and Band Reject
		Waveform Interpolation	Sin x/x, Linear

		Storage	Internal : 2 Group reference waveforms, 20 waveforms and 20 Setups USB : BMP, CSV, Waveforms, Setups
		Communication Port	USB Host, USB Device, RS232, Pass/Fail
		Sample Types	Real Time and Equivalent Time
		FFT	Window: Hanning, Hamming, Blackman, Rectangular
		Measure Display Modes	Main, Window, Window Zoom, Scan, X-Y
		Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite
		Probe Attenuator	1X, 10X
		Display	7 inch TFT Color LCD Display
		Display Resolution	480 Horizontal x 234 Vertical pixels
		Power	100 - 240V AC, 50VA Max
		Net Weight	2.4kg
		Dimensions	399 x 110.5 x 148.5 mm
		Accessories	1:1/10:1 Probe (2 pcs), Power Cord, USB Cable, Easy Scope Software
		Optional	GPIB Communication Module, Serial Interface Communication Module, Pass/Fail Interface Module
5	QualNet Simulator Software Qualnet 6.1	QualNet, 5 Users Teaching License for 5 years	with 3 base libraries for 5yrs viz :
			▪ Wireless Library
			▪ Developer library
			▪ Multimedia and Enterprise Library
			▪ Advanced Wireless (WiMAX/IEEE 802.16)
			▪ Cellular
			▪ Sensor Networks
			▪ UMTS
			▪ Urban Propagation
			▪ LTE
			First three libraries are must. However, a selection from rest six libraries may be offered.