

## Instruments facility available in Signal System and Communication Laboratory

S. No.	Instruments	Make	Model No.	Specifications	Qty.
1	Digital Storage Oscilloscope	Agilent	DSO-X 2012A	<b>DSO + Inbuilt Function Generator Features:</b> <ol style="list-style-type: none"> <li>1. Channel - 02</li> <li>2. Bandwidth - 100MHz,</li> <li>3. Sample Rate - 2GSa/s</li> <li>4. Functions – Sine, Square, Pulse, Triangular, DC and Noise</li> <li>5. Frequency – 20MHz</li> <li>6. Max. Voltage – 5Vpp</li> </ol>	05
2	Digital Storage Oscilloscope	Regol	DS4014	<b>DSO Features:</b> <ol style="list-style-type: none"> <li>1. Channel - 04</li> <li>2. Bandwidth - 100MHz,</li> <li>3. Sample Rate - 4 GSa/s</li> </ol>	08
3	Digital Storage Oscilloscope	Tektronix	TD1002	<b>DSO Features:</b> <ol style="list-style-type: none"> <li>1. Channel - 02</li> <li>2. Bandwidth - 60MHz,</li> <li>3. Sample Rate - 1GSa/s</li> </ol>	15
4	Function Generator	Agilent	33210A	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Functions – Sine, Square, Pulse, Triangular, DC and Noise</li> <li>2. Frequency – 20MHz</li> <li>3. Max. Voltage – 20Vpp</li> </ol>	01
5	Function Generator	Scienteck	415	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Functions – Sine, Square, Pulse, Triangular, DC and TTL</li> <li>2. Frequency – 10 MHz</li> <li>3. Max. Voltage – 20Vpp</li> </ol>	16
6	Function Generator	Scientific	SM 5078	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Functions – Sine, Square, Pulse, Triangular, DC and TTL</li> <li>2. Frequency – 10 MHz</li> <li>3. Max. Voltage – 20Vpp</li> </ol>	38

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7	Function Generator	Scientific	SM5078A	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Functions – Sine, Square, Pulse, Triangular, DC and TTL</li> <li>2. Frequency – 10 MHz</li> <li>3. Max. Voltage – 20Vpp</li> </ol>	04
8	Multiple Power Supply	LNMIIT	LNMIIT	<b>Features:</b> <ol style="list-style-type: none"> <li>1. <b>AC Voltage:</b> 12V-0-12V</li> <li>2. <b>DC Voltage:</b> <math>\pm 12V</math> and <math>\pm 5V</math></li> <li>3. <b>Current:</b> 1A</li> </ol>	22
9	Dual Power Supply 30V-3A	Scientific	PSD 3203	<b>Features:</b> <ol style="list-style-type: none"> <li>1. <b>DC Voltage:</b> Variable <math>\pm 30V</math>.</li> <li>2. <b>Current:</b> Variable 3A.</li> </ol>	15
10	Multiple DC Power Supply	Sciencetech	ST-4074	<b>Features:</b> <ol style="list-style-type: none"> <li>1. <b>DC Voltage:</b> <math>\pm 12V</math> and <math>\pm 5V</math></li> <li>2. <b>Current:</b> 1A</li> </ol>	12
11	CNC Milling Machine	ChinaCNCzone	CNC 6040Z	<b>Features:</b> <ol style="list-style-type: none"> <li>1. It has 1500W and 2200W water cool spindle for selection.</li> <li>2. Auto-Checking function.</li> <li>3. It has three different types of controllers according to users' need. (USB controller box for 3.USB CNC software and parallel port for mach3 CNC software, DSP controller box no need use mach3 software, and mach3 USB controller box for mach3 software.)</li> <li>4. It is a mini 4 axis CNC router.</li> <li>5. The Z axis effective working area is 105mm, and accept material thick 145mm.</li> <li>6. Ball screw high precision.</li> <li>7. Independent power supply for mainboard, prolong using life.</li> <li>8. Limited switch added.</li> <li>9. With water sink cool system</li> </ol>	01

				10. Can engrave material such acrylic, brass, wood, aluminum, PCB and so on. 11. A mini 4 axis CNC router	
12	Pulse Generator 20MHz	Scientific	SM5035	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Wide Frequency Range: 20 mHz - 20MHz</li> <li>2. Pulse duration 20 ns to 20 s</li> <li>3. Fast rise/fall time of 3ns</li> <li>4. Complementary Dual Outputs 5V &amp; 2V</li> <li>5. Internal, External &amp; Manual Triggering</li> </ol>	08
13	Soldering Station	Soldron	878D	SOLDRON 878D Multi-Function ESD Protected Hot Air and Iron Digital Rework Station <b>Features:</b> <b>A) Soldering Iron</b> <ol style="list-style-type: none"> <li>1. ESD safe, lead free iron with printed ceramic heater</li> <li>2. Microcontroller based smart circuit design.</li> <li>3. Sleep function to save energy and conserve the bit.</li> </ol> <b>B) Hot Air Gun:</b> <ol style="list-style-type: none"> <li>1. High Capacity heater with temperature sensor for uniform and fast heating.</li> <li>2. Blower on the handle with speed control makes it lightweight, efficient and easy to use.</li> <li>3. When placed in the cradle, the hot air gun heater switches off automatically and starts fan to cool it.</li> </ol>	01
14	LCRQ Meter	Scientific	6018	<b>Features:</b> <ol style="list-style-type: none"> <li>1. Auto Computing</li> <li>2. Auto Ranging</li> <li>3. Basic Accuracy 0.25%</li> <li>4. Hold Function</li> <li>5. Frequency 100Hz / 1kHz</li> <li>6. Series or Parallel mode</li> <li>7. Low Accuracy Prompt</li> <li>8. Equivalent Circuit Prompt</li> </ol>	02

				9. 4 Point Measurement Technique	
15	Desktop Computer	Wipro	Core-i5, WIV68105	---	01
16	Desktop Computer	Wipro	Core-i3, WIV59355	---	01
17	VPL Universal IC Tester	VPL- Infotech	VPL-UICT	---	01
18	Printer	HP	HP LaserJet pro MFP M227SDN (G3Q74A)	<b>Features:</b> 1. Black and white	01
19	Digital Multimeter	Agilent	U1233A	<b>Features and Functions</b> 1. Continuity tests with visual and audio alerts 2. Built-in LED flashlight helps you troubleshoot in dimly lit areas 3. Low impedance mode, $Z_{LOW}$ , eliminates ghost voltage and improves measurement accuracy 4. Non-contact voltage detection, Vsense, alerts you, without probing, when high AC voltage presence is detected in hot or live wires 5. 500 hours of battery life and Keysight Remote Link Solution enabled (wireless data logging via <i>Bluetooth</i> <sup>®</sup> ) 6. CAT III 600V Overvoltage Protection	01
20	Digital Multimeter	Scientific	---	<b>3 <sup>3</sup>/<sub>4</sub> Auto Range Digital Multimeter Features:</b> 1. True RMS 2. Large LCD with backlight 3. CAT-IV 4. Metallic screen board with stronger antimagnetic and anti-interferential function. 5. Full function protection, anti-high voltage circuit design. 6. Range Accuracy <ul style="list-style-type: none"> <li>▪ DC Voltage 400mV/4V/40V/400V/1000V <math>\pm</math> (0.5%+4)</li> <li>▪ AC Voltage 400mV/4V/40V/400V/750V <math>\pm</math> (0.8%+10)</li> <li>▪ DC Current 400uA/4000uA/40mA/400mA/10A <math>\pm</math> (1%)</li> <li>▪ AC Current 400uA/4000uA/40mA/400mA/10A <math>\pm</math> (1.5%+10)</li> </ul>	01

				<ul style="list-style-type: none"> <li>Resistance 400/4k/40k/400k/4M/40M <math>\pm</math> (0.8%+4)</li> <li>Capacitance 4nF/40nF/400nF/4uF/40uF/200uF <math>\pm</math> (2.5%)</li> <li>Frequency 100/1000/10k/100k/1M/30MHz <math>\pm</math> (0.5%+10)</li> <li>Celsius -20 to 1000°C <math>\pm</math> (1.0%+5)</li> </ul>	
21	Projector	EPSON	EB945H	<b>Epson Projector</b> <ol style="list-style-type: none"> <li>Connectivity: HDMI</li> <li>Resolution: 1024x768 Pixels (XGA)</li> <li>Brightness (lumens): &gt;2500 Lumens</li> <li>Display Type: LCD</li> <li>Functionality: Wi-Fi</li> <li>Aspect Ratio: 16:10</li> </ol>	01
22	AC	Carrier	--	7.5 TON Douctable	01
23	Lab Setups			No. benches: 20 Capacity the lab in one lab session: 40 Students	20