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ANNEXURE-2

Department of Electronics Engineering

SrNo	List of equipment/ experiment	Specification	Required Quantity	Rate per Unit
1	Digital Oscilloscope	DIGITAL STORAGE OSCILLOSCOPE: SCIENTECH MAKE MODEL: SCIENTECH-403 100MHz Bandwidth, 2 Channel Digital >Compact Size & TFT Color Display :7 " >Real Time Sampling Rate : 1GSa/s >Equivalent Time Sampling Rate: 50GSa/s >Memory Depth : 2Mpts >External Storage through USB >32 Measurement Functions >On screen FFT and other Math Functions	3	
2	Microwave test bench-	Microwave Test Bench (Klystron Based) Experiments:- 1-Study of the characteristics of Klystron tube and to determine its electronic tuning range 2-To determine the frequency & wavelength in a rectangular waveguide working TE ₁₀ mode 3-To determine the standing wave ratio and reflection coefficient 4-To measure an unknown impedance with smith chart 5-To study the square law behavior of a microwave crystal detector 6-To study the voice communication by using Microwave Test Bench 7-To study the variable attenuator	1	
3	PID controller	A) Scientech-2451 :- Overview of PID Controller * Square and triangular wave with variable frequency for Testing PID Proportional, Integral and Derivative functions can be checked on same board, variable DC for set Point in built power supply, Built in 3½ DVM for DC measurement.	1	
4	Characteristics of Potentiometer as error detector	SCIENTECH-2306: POTENTIOMETER AS AN ERROR DETECTOR Scope of Learning * Study of AC & DC Potentiometric Error Detector * Study of Angle to voltage converter by potentiometer * Study of Phase reversal of Error Signal * Study of DC Position Control system. Characteristics of synchro as error Detector	2	
5	Function generator	10MHz Function Generator with Arbitrary Waveforms and Built-in 200MHz Frequency Counter DDS technology Single-channel output 125MSa/s Sample Rate Frequency resolution 1mHz Display 4" colour LCD Vertical resolution 14 bits 5 types of standard output waveforms, and built-in 40 Arbitrary waveforms	4	
6	DPCM Modulator / Demodulator	DPCM/ADPCM Modulation / Demodulation Kit A) Scientech -2113:- Differential Pulse Code Modulation (DPCM) Scope of Learnings :- On board DPCM transmitter & receiver , Audio input And output processing on same board	1	

7	ASK,PSK,FSK Modulator / Demodulator	A) Sciencetech-2156:- Data Formatting and Carrier Modulation/Transmitter Trainer On-board Carrier generation circuit (Sine waves Synchronized to transmitter data) on-board in phase and Quadrature phase Carrier for QPSK modulation and DQPSK Different data conditioning Formats NRZ (L), NRZ (M), RZ, Biphasic (Manchester), Biphasic (Mark), AMI, RB, Differentially encoded dibit pair FSK, PSK, ASK, QPSK & DQPSK carrier modulation . Variable carrier and modulation Off-Set variable carrier gain On-board Unipolar to Bipolar conversion On-board data inverter B) Sciencetech-2157 :- Data Reformatting & Carrier Demodulation Receiver Trainer 7 different data reconditioning formats NRZ (M), RZ, AMI, RB Biphasic (Manchester), Biphasic (Mark) Differentially encoded dibit to NRZ data ASK, FSK, PSK, DPSK ,QPSK & DQPSK carrier demodulation Output gives 2 Channels TDM multiplexed data outputs On - Board Biphasic Clock recovery circuit On - Board data squaring circuit and different decoder On - Board Butterworth filters - 4th Order	1	
8	Digital Circuits Development	Sciencetech-2611 :- Digital Lab with high quality Bread Boards. * On board DC fix and variable power supply, 1 MHz pulse Generator, pulser switches, 8 bit data switches, bi-color LED pulser switches, 8 bit data switches, bicolor LED Display, logic probe, BCD to seven segment display, CMOS/TTL output, functional blocks indicated on board mimic.	2	
9	Colour TV trainer Kit	21" Flat picture tube with 30 faults creating facility	1	
10	Experimentation of OP-AMP Characteristics	Sciencetech-2322	2	
11	Op-Amp Applications	Sciencetech- 2323	2	
12	Hi-fi amplifier system trainer	With faults creating facility		
13	Earth tester,	Nippen Make 10V/100MOhms	1	
14	Insulator tester	Nippen Make 1000V/200mOhms	1	
15	QAM Modulator / Demodulator		1	
16	4 input TDM Modulator / Demodulator		1	
17	2 input FDM Modulator / Demodulator		1	
18	IGBT Characteristics		1	
19	Half wave controlled rectifier with R & RL load		1	
20	Single stage common source FET amplifier		1	
21	Audio power amplifier using transistor		1	
22	Voltage series feedback amplifier using Transistor		1	
23	Voltage shunt feedback amplifier using Transistor		1	
26	RC-phase shift oscillator using transistor		1	
27	Crystal oscillator using transistor		1	
28	Miller sweep generator using transistor		1	
29	Single tuned amplifier using transistor		1	
30	Single stage Class A Power amplifier using transistor		1	
31	Single stage Class B power Amplifier using transistor		1	

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Date :

Name & Signature of Supplier

Place :