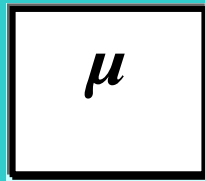


PRODUCT CATALOG

TRAINER KITS FOR

ENGINEERING DEGREE COURSES



MICROTECH INDUSTRIES

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INTRODUCTION

Microtech Industries , Kolkata established in 1990 provide a high quality manufacturing service for educational trainer kits and measuring instruments for a wide spectrum of different levels of Educational Institutions and industries. Our specialties are as follows :

- ☛ We are the hi-tech Laboratory Instrument manufacturer in West Bengal.
- ☛ We have already supplied trainer kits in under graduates Science Colleges , Universities , Engineering institutes and also tailor made equipments to different industries all over Eastern India. All supplied instruments are working well.
- ☛ Our quality of products coupled with efficient after sales service. We take the responsibility to satisfy the customer within the warranty period.
- ☛ Company has a team of experienced engineers and technicians in R & D department to produce quality cost effective products with appropriate technology in close contact with client .

Vision: Microtech Industries , Kolkata will provide competitive, high quality laboratory instruments manufacturing services and individualized customer service, while encouraging employee creativity, motivation, and team work in a continuously improving environment.

Mission:

1. Work in close on contact with our customers to understand their needs and provide high quality products services.
2. Utilize Continuous Process Improvement strategies to ensure the highest quality cost effective products and services.
3. Provide employees with on-going training to enhance knowledge and skills, develop problem solving and decision making abilities, and offer opportunities for advancement;
4. To build up a strong nationwide network .
5. Work together as a team to provide quality services.
6. Provide a work environment which motivates our employees and encourages independence, cooperation, respect, and humor.

Basic Electronics Lab .

1. Semiconductor Diode (Characteristics) Trainer
2. Rectifier Trainer
3. Zener Diode Trainer .
4. Transistor Trainer
5. Transistor Trainer : Measurement of hybrid parameters
6. JFET Trainer
7. JFET Amplifier Trainer
8. MOSFET Trainer
9. UJT Trainer
10. SCR Trainer.
11. Diac & Triac Trainer
12. CE Amplifier Trainer
13. Feed Back Amplifier Trainer
14. Push Pull (Transformer coupled) Amplifier Trainer
15. Push Pull (Complimentary symmetry) Amplifier Trainer
16. Tuned Amplifier Trainer
17. Emitter Follower Trainer
18. Multivibrator (Transistorised) Trainer:
19. Multivibrator (I.C 555) Trainer
20. Wien Bridge Oscillator(Transistorised) Trainer..
21. Wien Bridge Oscillator(Op. amp) Trainer..
22. RC Phase Shift Oscillator Trainer
23. Colpitt Oscillator Trainer
24. Hartley Oscillator Trainer
25. Crystal Oscillator Trainer
26. Tuned Collector Oscillator Trainer
27. Passive Differentiator & Integrator Trainer
28. Clipper & Clamper circuit Trainer
29. Differential Amplifier Trainer
30. Integrator and Differentiator Trainer:
31. Op. Amp. Characteristics Trainer
32. Op. Amp. Application Trainer:
33. Power Supply (Transistorised) Trainer
34. Power Supply (I.C 317) Trainer
35. Switched Mode Power Supply Trainer :
36. Photo cell Trainer:
37. Sample and Hold Trainer :
38. Schmitt Trigger Trainer
39. Active Filter Trainer
40. DMM Trainer
41. Function Generator Trainer :
42. Voltage to Current and Current to Voltage converter Trainer

43. Stefan's Law experimental setup.
44. Band Gap measurement set up
45. Lattice Vibration study kit.

Electrical Engineering Lab.

1. Kirchhoff's Current Law Trainer
2. Kirchhoff's Voltage Law Trainer
3. Resistance Measurement Trainer :
4. Inductance measurement Trainer :
5. Network Theorems Trainer
6. Superposition Theorem Trainer
7. Series & Parallel Resonance Circuit
8. BH & Hysteresis Loop:

Bridge

1. Anderson Bridge.
2. Schering Bridge:
3. Owen's Bridge :
4. Wien Bridge :
5. Desauty's Bridge :
6. Maxwell Bridge
7. Kelvin Double Bridge

Network & Circuit Lab

1. Transient response in R – L and R – C network Trainer .
2. Transient response in R – L – C series and parallel circuits Trainer.
3. Determination of impedance (Z) and Admittance parameters of a two port network Trainer
4. Low Pass Filter Trainer
5. High Pass Filter Trainer
6. Band Pass Filter Trainer
7. Band Reject Filter Trainer
8. Characteristics Impedance Trainer :
9. Attenuator Trainer
10. Passive Differentiator & Integrator Trainer
11. Transmission line Demonstrator

Electrical & Electronic Measurement Lab.

1. Construction of PMMC ,Dynamometer Electrothermal and Rectifier type Instruments
2. Study of static characteristics of a measuring instrument .
3 Study of Dynamic characteristics
4. Calibration of Dynamometer type Wattmeter by potentiometer .
5. Calibrate moving iron and Electrodynamometer type Ammeter / Voltmeter by potentiometer.
6. Calibrate AC Energy meter.
7. Measurement of Power using Instrument Transformer .

Instrumentation Lab

1. Instrumentation Amplifier Trainer
2. Voltage to current Transmitter Trainer :
3. Current to voltage Receiver Trainer :
4. Semiconductor temperature sensor Trainer :
5. Capacitive Transducer Trainer :
6. Strain Gauge Trainer
7. LVDT (Displacement measurement) Trainer, Model I
8. LVDT (Pressure measurement) Trainer , Model II :
9. Load Cell Trainer :
10. Thermocouple Trainer
11. Thermistor Trainer
12. RTD Trainer :
13. Inductive Displacement Transducer Trainer :
14. Displacement measurement using Hall Sensor
15. Speed measuring Instrument Trainer
16. Angular speed measuring system Trainer.
17 Temperature sensor and Control Trainer
18. Automated measurement of Sensors characteristics using Computer
19. Experiment on PID Controller.

Digital Electronics Lab

1. Logic Gate Trainer.
2. Universal Gate Trainer :

3. Digital I.C. Trainer .
4. Half Adder & Full Adder Trainer Model I .
5. Half Adder and full Adder Trainer . Model II .
6. Adder & Subtractor Trainer . Model III .
7. BCD Adder Trainer.
8. Basic Encoder Trainer
9. Basic Decoder Trainer
10. Encoder Trainer
11. Decoder Trainer
12. Seven Segment Display Trainer
13. Decoder Application trainer
14. Basic Multiplexer Trainer .
15. Basic Demultiplexer Trainer.
16. Multiplexer Trainer.
17. Demultiplexer Trainer.
18. Multiplexer Application Trainer
19. Gray Code Trainer .
20. BCD & Excess – 3 Code converter Trainer .
21. Parity Generator and Checker Trainer
22. Digital Comparator
23. Flip Flop Trainer .
24. Master Slave Flip Flop Trainer
25. Asynchronous Counter Trainer
26. Synchronous Counter Trainer .
27. Shift Register Trainer
28. Universal Shift Register Trainer .
29. Digital to Analog converter Trainer .
30. Analog to Digital Converter Trainer
31. Random Access Memory Trainer:
32. Read Only Memory
33. Bread Board Trainer

Communication Engineering Lab

1. Fourier Spectrum analysis Trainer Kit.
2. Transmission Line Demonstration Trainer
3. A. M. Modulation & Demodulation Trainer . Model I
4. A. M. Modulation & Demodulation Trainer . Model II
5. DSB & SSB Modulation & Demodulation Trainer:
6 VCO & PLL Trainer :
7. Frequency Modulation & Demodulation Trainer
8. PAM Modulation & Demodulation Trainer
9. PWM and PPM Modulation & Demodulation Trainer

10. ASK Modulation & Demodulation Trainer :
11. FSK Modulation and Demodulation Trainer :
12.PSK Modulation & Demodulation Trainer
13. Analog Time Division multiplexing & Demultiplexing :
14.Digital Time Division Multiplexing& Demultiplexing Trainer
15.Frequency Division Multiplexing & Demultiplexing Trainer
16. Pulse Code Modulation & Demodulation Trainer:
17. Differential Pulse Code Modulation & Demodulation Trainer
18.Delta Modulation & Demodulation Trainer
19. Adaptive Delta Modulation & Demodulation Trainer
20.PN Sequence Generator Trainer
21. Signal sampling and Reconstruction Trainer
22. EPABX Trainer without P & T Line
23. Radio Receiver Trainer;

:

Audio & Video Engineering Lab

1. Function Generator calibration Trainer
2.Power Amplifier Trainer:
3.Microphone Testing Trainer:
4.Loudspeaker Testing Trainer :
5 B/W TV Trainer
6.Colour TV Demonstrator
7.VCD Player Demonstrator

Industrial & Power Electronics Lab

1.. SCR Trainer.
2. Diac & Triac Trainer
3.Thyristor Triggering Circuit Trainer :
4. UJT Triggering Circuit Trainer:
5. Converter Firing Circuit Trainer
6.Half Controlled Bridge Converter Trainer
7. Fully Controlled Bridge Converter Trainer
8.Phase Control Circuit of an SCR Trainer
9.Control Rectifier Trainer
10.Delay & Sequential Timer Trainer
11.D.C. Motor Speed Control Trainer
12.AC Motor Speed control Trainer:
13.Thyristorised Chopper Trainer
14. MOSFET Chopper Trainer

15.Single Phase PWM modulator Trainer
16.Inverter Trainer:
17.Converter Trainer
18.Stepper Motor Demonstrator
19.Buck & Boost Converter Trainer
20.UPS [Off line] Trainer
21.Switching Characteristics of Diode & power BJT
22. Drive circuit of Power BJT.

Optoelectronics & Optical Communication Systems Lab

1. Measurement of Numerical Aperture of an optical Fiber using LASER.
2. Measurement of attenuation loss in Optical Fiber .
3. Measurement of Attenuation Loss & Numerical Aperture of an Optical fiber [Low cost]
4. LASER Characteristics
5.. Measurement of wavelength [LASER] of an optical Fiber source .
6.. Setting up a Fiber Optic analog link , study of PAM.
7. Studies of Frequency Division Multiplexing and Demultiplexing using optical fiber
8. To study the Fiber Optics Data Link and study of TDM .
9 PC To PC communication through Fiber
10. Fiber optics Analog communication system
11. Fiber optics Digital communication system
12 LASER based free space communication:
13. LED Trainer
14. Solar Cell Trainer
15. Photo Diode Trainer
16. LDR Trainer :
17. Photo Transistor Trainer (Advance)
18. Optocoupler study Kit.

Signal Processing Lab

: :

1. Single channel Data Acquisition System
2.Eight channel Data Acquisition & Control System.
3.Sixteen channel Data Acquisition & Control System
4. Signal Conditioners

Remote Control & Telemetry Lab

1. Voltage Telemetry System.
2. 4 – 20 mA Telemetry System :
3. Frequency Telemetry System :
4. FDM system
5. PCM System :
6. VCO & PLL Trainer :
7. Closed Loop Remote Control System
8. Sixteen channels Data Acquisition System
9. Process Telemetry & Remote Control System.

Function Generator

1. Audio Frequency Oscillator
2. Sine & Square wave generator
3. Function Generator
4. Function Generator :

Meters

1. Analog meters [Different ranges]
2. Digital Voltmeter (Bench Top).
3. Digital milliammeter (Bench Top).
4. Digital Microammeter (Bench Top).
5. Two Digital Meters (Bench top).
6. Three Digital Meters (Bench Top).
7. Digital A.C. Voltmeter (Bench Top).
8. High frequency ac voltmeter(Analog type).
9. Capacitance meter

Power Supply

1. +5 V @ 500 mA I.C. Regulated Power supply.
2. +5 V @ 1 A I.C. Regulated Power supply.
3.+12 V & -12 V @ 500 mA I.C. Regulated Power supply.
4. +12V & - 12V @ 1A I.C. Regulated Power supply.
5. 0 - 15 V @ 500 mA continuously variable I.C. regulated power supply with digital Voltmeter..
6. 0 – 15 V @ 1 A Continuously variable I.C. regulated power supply with digital Voltmeter.
7.0 – 30 V @ 1 A continuously variable I.C. regulated power supply with digital Voltmeter & Ammeter.
8. 0 – 30 V @ 2A continuously variable I.C. regulated power supply with digital Voltmeter & Ammeter.
9. 0 to + & - 30 V @ 1 A continuously variable I.C regulated power supply with digital Voltmeter & Ammeter.
10. 0 to + & - 30 V @ 2 A continuously variable I.C regulated power supply with digital Voltmeter & Ammeter.
11. 0 – 5 V and 0 – 15 V @ 250 mA continuously variable I.C. regulated power supply .
12. + & - 12 V and 5 V @ 1 Amp. I.C. regulated power supply .
13. 0 – 12 V @ 5 Amp. with Digital voltmeter & Ammeter helps for B – H experiment.
14. 0 – 30 V @ 5 Amp. with Digital voltmeter & Ammeter.

Miscellaneous

1. Oscilloscope Probe .
2. Decade inductance Box :
3. Decade Capacitance Box :
4. LASER
5. Laser stand
6. Universal Trainer Kit. Model – I
7. Universal trainer Kit. Model – II

Physics lab

1.Engineering Physics Lab : 1 st Sem.
2. Engineering Physics Lab : 2 nd. Sem.