|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr.No.** | **Description with complete specification** | **Qty.** |  |  |
|  | **Drill machine (Electric):** Drill machine (Electric) Handy electric drill machine, 220V AC operated heavy duty motor. | **01** |  |  |
|  | **Linear IC trainer:** Study of operational amplifier (op-amp IC 741),ic 555 all practical, power supply dc and ac for above said practical’s, patch cords, cover manual etc. | **02** |  |  |
|  | **Digital IC trainer:**  All Basic gate, universal gate,Flip Flop(RS,JK,T,D,JKMS) Component should inside the kit, with Kit cover, connecting leads, Power Supply +5V with logic input & output LED, cover, manual etc | **05** |  |  |
|  | **Digital IC trainer :**  Counters, shift registers .Component should inside the kit, with Kit cover, connecting leads, Power Supply +5V,±15V DC with logic input & output LED, cover, manual etc. | **05** |  |  |
|  | **Analog multi meter:** DC 0-1000V, AC 0-1000V, CURRENT max.10A, Resistance 10M ohm. | **30** |  |  |
|  | **Bread board**: Inbuild power supply +5V,±15V DC,with 5 logic input & 5 logic output LED , with 1Hz,100Hz 1KHz TTL clock. ,cover | **07** |  |  |
|  | **Digital multi meter :** DC Voltage :400mV/4V/40V/400V/1000V AC Voltage :4V/40V/400V/750V DC Current :400μA/4000μA/40mA/400mA/4A/10A AC Current :400μA/4000μA/40mA/400mA/4A/10A Resistance :400Ω/4kΩ/40kΩ/400kΩ/4MΩ/40MΩ Capacitance :40nF/400nF/4μF/40μF/100μF  Frequency :10Hz-10MHz | **32** |  |  |
|  | **Blower:** High Power Portable Electric BlowerLight weight, high power electric blower, power 500 watts | **02** |  |  |
|  | **LVDT trainer:** Self contained and easy to operate. Sensitive, Linear Stable and Accurate.Functional block indicated on broad mimic 3digit LED display with polarity indicator.Onboard LVDT displacement measurement jig with micrometer. Amplitude measurement for Excitation Generator. High repeatability and reliability.Compact size. Study of Input and Output characteristics of LVDT. To determine linear range of operation of LVDT. To determine sensitivity of LVDT. To measure Phase difference between LVDT secondary. | **01** |  |  |
|  | **TEMPERATURE TRANSDUCERS TRAINER**: Each with 4 different Transducers.Study of Transducer controlled switching/alarm systems.On board signal conditioning circuitry. Built-in DC power supply.Functional blocks indicated on- board Mimics. Fully documented Student Workbook and Operating Manual with each trainer. Compact size. Experiment that can be performed, Characteristics of IC temperature Sensor Characteristics of NTC Thermistor, NTC Bridge Circuit, Platinum RTD. K type Thermocouple.Temperature Controlled Alarm System. | **01** |  |  |
|  | **Pulse Amplitude Modulation/Demodulation kit :**  **SPECIFICATION:**On-board signals:Sine waveFrequency: 250Hz, 500Hz, 1 KHz, 2 KHzAmplitude: 0 ~ 5 VppDC signal: 0 ~ - 5 VInput channels:4 Multiplexing:Time division multiplexing Sampling rate:32 KHz  | **02** |  |  |
|  | **Pulse width Modulation/Demodulation kit:**  SPECIFICATION:On-board signals :Sine waveVariable frequency: 1Hz ~ 30HzAmplitude: 0 ~ 2 VppFixed frequency: 500Hz and 1 KHzAmplitude: 0 ~ 4 VppSampling:Internal sampling clock: 8 KHz and 16 KHzDuty cycle: 50 % | **02** |  |  |
|  | **Delta Modulation/Demodulation kit :**  **SPECIFICATION:**On-board signals Sine waveFrequency: 250Hz, 500Hz, 1KHz, and 2 KHzAmplitude: 0 ~ 4VppDC: 0 ~ 5VSampling Clock: 8 KHz, 16 KHz, 32 KHz, 64 KHz, and 128 KHzDuty cycle: 50% Modulation techniques:Delta modulation, sigma delta modulation, adaptive delta modulation, CVSD modulation  | **02** |  |  |
|  | **Pulse Code Modulation / Demodulation Trainer:** SPECIFICATION:  Modes of operation :FAST: 16 KHz / channelSLOW: 0.088Hz (811ms) / channel Parity code facility :Even, odd, hamming, none parity On-board signals:Sine waveFrequency:500Hz and 1 KHzAmplitude: 0 ~ 4 Vpp  | **02** |  |  |
|  | **Filter Trainers**: Filter Trainers of different types (low, high, band pass, band eliminate etc.): The components should be mounted with protection of transparent acrylic sheet or mounted back side of the PCB. Butter worth 2nd and 4th order. | **02** |  |  |
|  | **ASK Trainer :** SPECIFICATION:Data Simulator: Onboard 8-bit variable NRZ-L patternCrystal Oscillator: 32.768 MHzData Clock: 256 KHzData Format: NRZ (L)Onboard Carrier Sine Waves: 1MHz (0°), 1MHz (180°), 500 KHz (0°)Carrier Modulation: ASK, FSK, PSK Power Supply: +12V,-12, +5V, GND | **02** |  |  |
|  | **FSK Trainer:** SPECIFICATION:Data Simulator: Onboard 8-bit variable NRZ-L patternCrystal Oscillator: 32.768 MHzData Clock: 256 KHzData Format: NRZ (L)Onboard Carrier Sine Waves: 1MHz (0°), 1MHz (180°), 500 KHz (0°)Carrier Modulation: ASK, FSK, PSK Power Supply: +12V,-12, +5V, GND | **02** |  |  |
|  | **QPSK Trainer**  : SPECIFICATION:Data Simulator: Onboard 8-bit variable NRZ-L patternCrystal Oscillator: 32.768 MHzData Clock: 256 KHzData Format: NRZ (L)Onboard Carrier Sine Waves: 1MHz (0°), 1MHz (180°), 500 KHz (0°)Carrier Modulation: ASK, FSK, PSK | **02** |  |  |
|  | **Optical Power Meter:**  SPECIFICATION: Wavelengths:850, 1310, 1550nm. Power range: +23dBm—40dBm, display: 4 digits(dBm or W), Wavelength, low battery, Power supply / battery -9V.DC | **01** |  |  |
|  | **UPS:** 2.5KVA with one hour backup on load. | **01** |  |  |