

Electricity & Electronics Trainers

EET-5000



The trainers cover a wide variety of exercise dealing with the following topic coverage Practical Electricity and Electronics Engineering in separate experiments Modules :

Experiments Modules :

Volume 1

- i. Fundamentals for Career Preparation c/w
 - Safety: Use of Power Sources and Meters
 - Component Symbols and Abbreviations
 - The Electronic VOM
 - Sources of Electricity
 - The Electronic Power Supply
 - Switches and Switching Circuits
 - Ohm's Law
 - Power-Heat-Light
 - Series Circuits- Kirchoff's Law
 - Parallel Resistive Circuits
 - Parallel Circuits- Kirchoff's Law
 - Series Parallel Circuits

Thevenin's and Norton's Theorems
Rheostats and Potentiometers
Voltage Dividers
The DC Voltmeter
The DC Ammeter
The Ohmmeter
Power Transfer
Relays
Capacitance
Time Constants
Introduction to Semiconductor Diodes
Introduction to the Transistor
Transistor Testing
Transistor Biasing
Bias Stabilization
The Transistor Specification Sheet

Volume 2

ii. Fundamental for AF Communication c/w
Direct and Alternating Circuits
The Oscilloscope
The Audio Frequency Generator
Inductance
Transformers
Inductive Reactance Capacitive Reactance
Series Resonance
Parallel Resonance
Rectifiers: Half-Wave and Full-Wave
Filtering and Voltage Doublers
Power Supply Test and Checks
Common Base Circuits
Common Emitter Circuits
Common Collector Circuits
RC Coupling
Transformer Coupling
Direct Coupling
Single-Ended Power Amplifier
Phase Splitter
Phase Inverter
Push-Pull Power Amplifier
Complementary Power Amplifier
Amplifier Test and Troubleshooting Procedure
Phase-Shift Audio Oscillator
LC Audio Oscillator

Volume 3

iii. Fundamentals for RF Communications c/w
The Radio Frequency Generator
Hartley RF Oscillator
Crystal Oscillator
Colpitts RF Oscillator
Demodulation
Audio Pre-Amplifier, Driver and Output Stages
Superheterodyne Second IF Amplifier Stage
Superheterodyne First IF Amplifier Stage
Superheterodyne Detector and AVC Stage
Superheterodyne RF Tuning Circuit
Superheterodyne Local Oscillator Circuit
Superheterodyne Converter Stage

Superheterodyne Receiver Alignment
Superheterodyne Troubleshooting
Communications Principles and Service
Considerations
Integrated Circuit Audio Amplifier
Passive Filters and Impedance Matching Circuits
RF Amplifier
Amplitude Modulation
Transmitting Antenna
Beat Frequency Principles
Varactor Diodes
Frequency Modulation Principles
FM Detection Principles
Automatic Frequency Control Principles
Dual Gate MOSFET RF Amplifier

Volume 4

iv. Fundamentals for Instrumentation
Varactor
Junction Field Effect Transistor
JFET Voltage Amplifier
JFET Constant Current Source
Metal Oxide Semiconductor Field Effect Transistor
MOSFET Voltage Amplifier
Zener Diode
Zener Diode Voltage Regulation
Shunt Type Voltage Regulator
Series Type Voltage Regulator
DC to DC Converter
Series Feedback
Shunt Feedback
Multistage Amplifier Feedback
Darlington Pair
Differential Amplifier
Integrated Circuit Operational Amplifier
IC Op Amp, Inverting Amplifier
IC Op Amp, Non-Inverting Amplifier
IC Op Amp, Summing Amplifier
IC Op Amp, Voltage Comparator
IC Op Amp, Active Filter
Unijunction Transistor
UJT Waveform Generator
Programmable UJT
PUT Frequency Divider Circuit

Volume 5

v. Fundamentals for Industry
Silicon Controlled Rectifier
SCR Gate Characteristics
SCR DC Power Control
SCR AC Power Control
Unijunction Transistor
UJT Waveform Generation
UJT-SCR Time Delay Circuit
Triac and Diac
Triac - Diac AC Power Control
Thermocouple- Op Amp Temperature Control
Thermistor Temperature Control
Photoconductive Cells

Photoconductive Cell- Light Control
Photovoltaic Cells
Photovoltaic Cell- Op Amp Light Control
Photovoltaic Cell- Light Measurement
Light Emitting Diode
Diode Limiters and Clamps
Waveshaping Circuits- Differentiation
Waveshaping Circuits- Integration
Schmitt Trigger
Monostable Multivibrator
Bistable Multivibrator
Astable Multivibrator
Blocking Oscillator
Bootstrap Sawtooth Generator
Diode Digital Logic Gates
Transistor Digital Logic Gates
Integrated Digital Logic Gates
J-K Flip-Flop
Four Bit Binary Counter
Decade Counter

vi. Courseware

The trainers supplied with simulators covering all of the topics stated in English. Each exercise include aims and objectives, circuit diagrams conforming to the latest EEC standards, theory section, practical procedure with corresponding prepared students working sheets and separate teacher-support results sheets.

* Complete work sheet/manual & note provided.
