



"Electricity Lab" is a versatile training kit for a laboratory. It is designed such that all the basic electrical circuits can be tested with the help of this trainer kit. The experiments given with training system develop mental starting from an introduction to the circuit, basic fundamentals and experiments on Ohm's Law, Magnetism, Relay, Power, Lenz's Law, Motors, Diode, Kirchoff's Law, R, L, C and many more. This simple training lab provides a strong foundation for future studies in electrical or electronics. This takes students from the basic of ohm's law, through simple series and parallel circuit analysis and into same elementary aspects of electronics where they will build circuits using capacitors and diodes. With this system a set of coils and cores are provided. These high quality coils (Labeled with number of turns) and laminated iron cores provides an effective introduction to electromagnetic theory. **Experiment Coverage:**

Specifications: 01. Meters 53

Meters: 5 Nos.

AC Voltmeter: 15V DC Voltmeter: 15V Galvanometer: ± 250uA

1.4. DC Ampere Meter: 0.6Amp 1.5. DC Ampere Meter: 5A

Power Supply:
2.1. Power Supplies: 3, 6, 12Vat 3.5A
2.2. Power SupplyAC: 30Vat1A
2.3. Power SupplyDC: 5Vat100mA

Switch DPDT 05. Push switch

Logic Switches Two No. Push type 06.

Relay 12VDCOne change over

Buzzer/Electric Bell

09.

10.

Transformer Input 6-0-6V and Output 6-0-6V Bulb6VThree Nos.
Resistance 1E2/1W, 5E/5W, 50E/5W,100E/5W, 220E/2W, 470E/2W, 1K/1W, 100K/1W

Capacitance 1000MFD/25VTwo Nos. 12.

Diode IN4007Two Nos. 13.

LED5mm 14.

Thermocouple 15

Potentiometer 10K Breadboard 840Tie Points 16. 17.

Fuse Holder open type

19. Electromagnetic Induction&Transformer20. Main Supply 230VAC, 50 Hz

Accessories:

4.

Beaker 100ml Patch Cords/ Connecting Leads Rods/ Strips for 1. 1 No. 12No s.

1 No. each Copper, Tin, Al, Zinc, Glass Brass, Carbon, Iron, Acrylic, Lead, Stainless Steel

Magnets 3Nos.(Bar Type-2, Horseshoe

(U) type-1) 1 No. 100 and 200 Turns Coils Crocodile Clips 6. 1 No. red and black 2 Nos. 1.5 V 10 Nos. 0.5A Battery/ Cell with holder

Glass Fuses Compass 1 No. 10. Measuring Scale 1No.

Insulated Disc 1 No. 1 No. including Armature, Rotor, Brush, Motor Support, 12. Motor Assembly

Iron Fillings Helix Assembly Meter Demonstration 1 No.

Set of U&I with Bolt 15. Core

16. Aluminium Ring

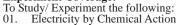
No. Stand 1 No. for motor action demonstration

18. IC AND (IC7408), OR (Ic7432), NOT (7404)

And EX-OR Gate (IC7486)

19. Multimeter 1 No. 20. Soft Iron Piece 1No.

Note: Specifications are subject to change.



Electricity by Heat Electricity by Magnets 02.

03.

04. Conductors and Insulators

05. Resistor Colour Code

06. Resistors in series combination

07. Resistors in Parallel combination 08. Resistors in series and Parallel combination

09. Ohm's Law

10.

Applying Ohm's Law Kirchoff's Current Law or Junction Rule Kirchoff's Voltage Law or Loop Rule 11. 12.

Linear & Non Linear Resistance Measurement of Power 13. 14.

15.

AC & DC Power Fuses and Circuit Breakers 16.

17. Heating Effect & the Fuse

Load in Series and Parallel Circuits

Cells Connections

20. Voltage in series & parallel Circuits

Current in series and parallel Circuits

Meter Movement

Meters in a Circuit

21. 22 23 24. 25. 26. 27. 28. 29. 30 31. Charging and Discharging of Capacitors

Study of Diode Full Wave Rectifier (optional)

The Contactor

Study of Relay The Electric Bell

Magnets and Magnetism

Magnetic Field Magnetic Properties

32. 33.

Magnetic Strength

Magnetic field around a conductor 35. Magnetic poles around a helix

36. Electromagnetic Strength

37. Electromagnetic Effect

38. Lenz's Law

39. Self Inductance

40. Mutual Induction 41.

Transformer Action Transformer Ratio of Voltages 42.

43. Transformer Phasing

Faraday's Law of Electromagnet Induction 44.

45. Motor Action

The Electric Motor Generator 46.

47. Generation of DC

Generation of AC Permanent Magnet DC Motor

49. 50.

51.

DC Series Motor DC Shunt Motor AC Universal Motor 52.

53. AND Logic Gate with truth table 54. OR Logic Gate with truth table 55.

NOT Logic Gate with truth table 56. X-OR Logic Gate with truth table

57 Convert a Galvanometer into voltmeter

Convert a Galvanometer into Ammeter

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,

Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India, Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com

Website: www.tesca.in