

**Scope Of Learning:**

- Single Phase Rectifier and Bridge Converter
- Three Phase Rectifier and Bridge Converter
- Step Up and Step Down Chopper
- Inverter Single Phase Half Bridge and Full Bridge
- Temperature PID Controller
- DC to DC Generation
- DC to AC Generation
- Operation on Dynamometer
- Three Phase Induction Motor

Technical Specifications:

- MCB (Power Switch) : Three Phase 10A
- Interconnections : 2mm & 4mm Safety Socket
- Diode Assembly : Diode 6A10 1000V/6A
- SCR Assembly : TYN 616 600V/16A
- IGBT Assembly: IGBT G4BC20S 600V/10A.
- Three/Single Phase Firing Circuit : Three Phase Firing Circuit (Firing Angle Control 30-150
- PWM Circuit : Triangular Comparator Method (For Inverter)
- PWM Circuit : (For Chopper)
- Digital AC Voltmeter : 0-500V AC Voltage Measurement
- Digital AC Ammeter : 0-30A AC Current Measurement
- Digital DC Voltmeter : 0-500V DC Voltage Measurement
- Digital DC Ammeter : 0-30A DC Current Measurement
- Frequency/VAR Meter
- Load Assembly : Six Load Assembly (Single Phase, Three Phase in Star/Delta)
- PID Controller (For Temperature)
- Single to Three Phase Frequency VVFD Drive
- Single Phase DC Drive

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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Power Supplies:

- Single Phase AC/DC Power Supply : 220V, 50/60Hz
- Center Tapped Transformer : 115V - 0 - 115V ± 10%, 2A Supply
- Low Voltage AC Power Supply : 15V-0
- Low Voltage DC Power Supply : +15V, +12V at 250mA
- Three Phase AC Power Supply :230V Phase voltage, 415 Line voltage ± 10% 50 Hz
- Three Phase Low Voltage Power Supply: 15V Each Phase ± 10%, 50Hz
- Operated on Mains power 415V, 50Hz +10%

Salient Features:

- Light Indicator for Mains.
- Front panel built with high class insulated Printed Bakelite/Aluminum Board sheet with well printed circuits and symbols.
- 4 Pole MCB for Short Circuit protection
- Instruction manual.
- Connections are brought out through 4mm Colored Safety Sockets.
- Patch Cords 4mm/2mm.
- The trainer is housed in Modular Based Rack Type Aluminum Extruded Metal cabinet.
- Size of the trainer set 54"x36"

OPTIONAL ACCESSORIES:

TEST BENCH

- SCOPE OF SUPPLY (PACKING LIST):
- Three Phase Inductive Load
- Three Phase Resistive Load
- Three Phase Transformer Unit
- MG Set-1, DC Motor Coupled With AC Generator
- MG Set-1, DC Motor Coupled With DC Generator
- Three Phase Capacitive Load
- Dynamometer Coupled With 3Phase Induction Motor
- Patch Cords 4mm, 2mm
- Bulbs (230V-100W, 24V-20W)
- POWER ELECTRONIC TRAINING SYSTEM

SN.	Name	Technical Details	Referene Image
1	Dc Shunt Motor Coupled With Ac Alternator	<p>Scope Of Learning:</p> <ul style="list-style-type: none"> ● Study of Dc Shunt Motor Coupled With Ac Alternator <p>MOTOR RATING:</p> <ul style="list-style-type: none"> ● Dc Shunt Motor 1.5Hp Coupled With Ac Alternator 1KVA <p>MOTOR SPECIFICATIONS:</p> <ul style="list-style-type: none"> ● DC Shunt Motor 1.5HP ● Operating Voltage:230V ● Type: DC ● RPM: 1440 RPM. ● Wattage: 1.1KW ● Terminations: 4 BTI 15 <p>Terminals</p>	

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		<ul style="list-style-type: none"> • Shaft: Single • Frame:132 • B3 • SPDP • 1P23 • 1C01 • Solid Yoke Extension • Fitted on Metal Base. <p>Generator Specifications:</p> <ul style="list-style-type: none"> • AC Alternator 1KW • Operating Voltage:415V • Type: AC • RPM: 1440 RPM. • Wattage: 1KW • Terminations: 5 BTI 15 Terminals • Shaft: Single • Frame:132 • B3 • SPDP • 1P23 • 1C01 • Solid Yoke Extension • Fitted on Metal Base. 	
2	Dc Shunt Motor Coupled With Dc Shunt Generator	<p>Motor Rating:</p> <ul style="list-style-type: none"> • DC Shunt Motor 1.5Hp Coupled With DC Shunt Generator 1KW <p>Motor Specifications:</p> <ul style="list-style-type: none"> • DC Shunt Motor 1.5HP • Operating Voltage:230V • Type: DC • RPM: 1440 RPM. • Wattage: 1.1KW • Terminations: 4 BTI 15 Terminals • Shaft: Single • Frame:132 • B3 • SPDP • 1P23 • 1C01 • Solid Yoke Extension • Fitted on Metal Base. <p>Generator Specifications:</p> <ul style="list-style-type: none"> • DC Shunt Generator 1KW • Operating Voltage:230V • Type: DC • RPM: 1440 RPM. • Wattage: 1KW • Terminations: 4 BTI 15 Terminals • Shaft: Single 	

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		<ul style="list-style-type: none"> • Frame:132 • B3 • SPDP • 1P23 • 1C01 • Solid Yoke Extension • Fitted on Metal Base. 	
3	Three Phase Induction Motor	<p>Motor Specifications:</p> <ul style="list-style-type: none"> • AC Squirrel Cage Induction Motor 1HP • Operating Voltage:415V • Type: AC • RPM: 1440 RPM. • Wattage: 0.75KW • Terminations: 6 BTI 15 Terminals • Shaft: Single • Frame:132 • B3 • SPDP • 1P23 • 1C01 • Solid Yoke Extension • Fitted on Metal Base. 	
4	DC Dynamometer For Motor Testing Experiment Set (EDDY Current Brake)	<p>These Dynamometers Swinging type are suitable for testing of Rotating machines AC or DC, basically these are also used as indirect method of loading of any machine. The construction features are basically an Eddy Current Dynamometer is constructed in such a way that it is able to indicate the torque produced at the rated rpm & current for the machine coupled to it. The prime mover becomes the motor under test & the dynamometer works as generator & its gets loaded by Eddy current clutch provided in the Dynamo with the help of an exciter unit. This Model is the Industrial/Educational model suitable for demonstrating to students the complete know of the Basics, Components, Mechanicals, Loading methods, Torque evaluation, Loading scheme, Wear & Tear & Maintenance of these motors packaged in small rating. Students can make connections of their own with the help of the terminations provided for study of features viz Coupling the motor to be tested, Starting methods, Speed-Torque, Excitation control of Dynamometer, Torque measurement. (Providing Load cells is an option)</p>	

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		<p>Technical Specs:</p> <ul style="list-style-type: none"> • Power ratings available : 1KW / 2KW/ 5KW/ 10KW • Voltage Input: 230V AC to Exciter unit. • Rpm of Machine 1500 • Single shaft extension, SPDP, IP23, IC01, B3, Class-B, S1, Solid yoke. <p>List Of Experiments Possible</p> <ol style="list-style-type: none"> 1) Load testing of AC Motor / Load testing of DC Motor 2) Torque calculation at various rpm 3) Speed-Torque Analysis / Voltage-Speed Analysis 4) Speed reversal / Efficiency Analysis 5) Blocked rotor test / Cold Resistance & Hot Resistance 6) Motor Operation parameters / Basic Overhauling Know how. <p>Scope Of Supply:</p> <ul style="list-style-type: none"> • 3Phase Induction Motor Coupled to Dynamometer 1KW(DC Shunt Generator is Similar to) • TECHNICAL SPECIFICATIONS: <p>Power Supplies:</p> <ul style="list-style-type: none"> • Operated on Mains power 415V, 50Hz +10% <p>Digital/Analog Meters:</p> <ul style="list-style-type: none"> • Voltmeter • Ammeter • DC Drive (To Operate DC Shunt Generator) • Components are mounted on the panels are: • Color Indication For Input <p>SALIENT FEATURES:</p> <ul style="list-style-type: none"> • Voltage regulation within limit as per ISS. • Special guard also provided on the coupling to avoid any mis-happening during operation. • Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols. • Instruction manual. • Patch Cords 4mm (Heavy Duty) 1Meter Length. • High Voltage Test Points are Provided With 4mm Safety Sockets • The trainer is housed in Metal 	
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		<p>cabinet.</p> <ul style="list-style-type: none"> • Short Circuit protection with the MCB. • Size of the trainer set 18"x12" 	
5	Three Phase Transformer (AIR Cooled)	<p>Technical Specifications: Power Supplies:</p> <ul style="list-style-type: none"> • AC Power Supply 440/220V AT 1000VA • Operated on Mains power 415, 50Hz +10% <p>Salient Features:</p> <ul style="list-style-type: none"> • Rating 1000VA per Phase • Transformer ratio is Step down 2:1. • 440V with Tapping at 0%, 0%, 86.6% and 100%. • High insulation copper winding. • Front panel built with high class insulated Bakelite sheet with Sticker well printed. • Instruction manual. • High Voltage Test Points are Provided With 4mm Safety Sockets/BTI-15 Terminals • The trainer is housed in Metal cabinet. • Short Circuit protection with the Fuse. • Size of the trainer set 18"x12" 	
6	3phase Resistive Load (3KW)	<p>Technical Specifications:</p> <ul style="list-style-type: none"> • 12 Control switches given board for current control for Each Phase • Each switch controls 1A current. • 12 Nos of Rheostats are mounted inside the cabinet having value of 1A. • Rating of Rheostats are 440Ohm,1A at 415V • Current Meter is provided for Load Measurement • Operating Voltage 415V, 50Hz AC (3Phase) <p>Salient Features:</p> <ul style="list-style-type: none"> • Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols. • Instruction manual. • 3 Phase Indications with 25mm Multi Colored Indicators. • Patch Cords 4mm (Heavy Duty) • High Voltage Test Points are Provided With 4mm Safety Sockets 	

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		<ul style="list-style-type: none"> The trainer is housed in Metal cabinet. Short Circuit protection with 4Pole MCB. Size of the trainer set 18"x24" Easy to move as wheels are given 	
7	3phase Inductive Load (3KW)	<p>Technical Specifications:</p> <ul style="list-style-type: none"> 12 Control switches given board for current control for Each Phase Each switch controls 1A current. 12 Nos of Inductors are mounted inside the cabinet having value of 1A. Inductors are Copper wound. Current Meter is provided for Load Measurement Operating Voltage 415V, 50Hz AC (3Phase) <p>Salient Features:</p> <ul style="list-style-type: none"> Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols. Instruction manual. 3 Phase Indications with 25mm Multi Colored Indicators. Patch Cords 4mm (Heavy Duty) High Voltage Test Points are Provided With 4mm Safety Sockets The trainer is housed in Metal cabinet. Short Circuit protection with 4Pole MCB. Size of the trainer set 18"x24" Easy to move as wheels are given 	
8	3phase Capacitive Load (3KW)	<p>Technical Specifications:</p> <ul style="list-style-type: none"> 12 Control switches given board for current control for Each Phase Each switch controls 1A current. 12 Nos of Capacitor mounted inside the cabinet having value of 1A. Operating Voltage 415V, 50Hz AC (3Phase) <p>Salient Features:</p> <ul style="list-style-type: none"> Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols. Instruction manual. 3 Phase Indications with 25mm Multi Colored Indicators. Patch Cords 4mm (Heavy Duty) 	

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		<ul style="list-style-type: none"> • High Voltage Test Points are Provided With 4mm Safety Sockets • The trainer is housed in Metal cabinet. • Short Circuit protection with 4Pole MCB. • Size of the trainer set 18"x12" • Easy to move as wheels are given 	
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