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Designers and Manufacturers of Educational Electronic Equipments

Ref No:- Date:-

STUDY OF NETWORK THEOREMS

1) STUDY OF SUPERPOSITION THEOREM

The set-up is designed to enable the student to verify the Superposition theorem with the help of 2 no of inbuilt power supplies (0 to 30 volts) & an ammeter. The system can be patched with the help of patch cords & terminals provided to connect components. The students can rig –up the circuits & study them. One no of DMM will be also supplied.

2) THEVENIN'S THEOREM

The set-up laid out on polycarbonate panel with neat labeling includes 2 no of variable power supplies (0 to 15 volt), 1 no Voltmeter, standard resistances & patch cords with terminals.

The student can be find out Thevenin's voltage & Thevenin's resistance for verification of the theorem.

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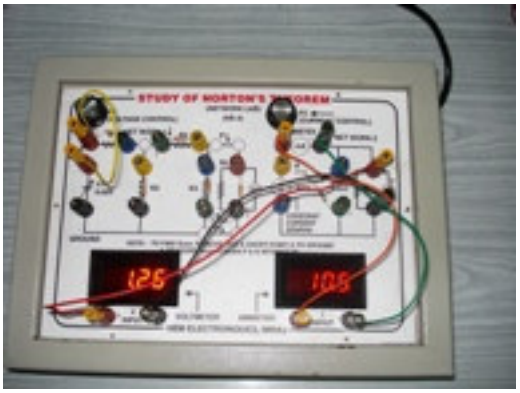
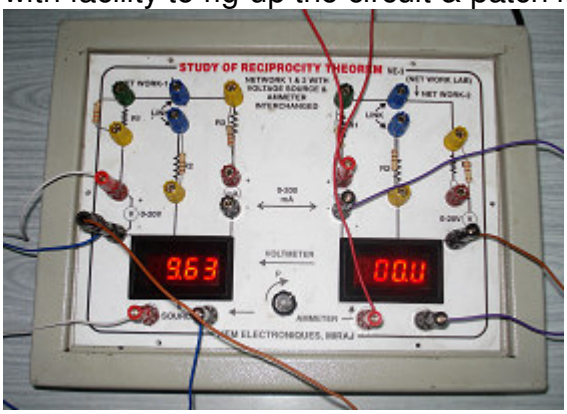
3) NORTON'S THEOREM

The set-up laid out on polycarbonate panel with neat diagrams. Scope of supply includes variable power supply (0 to 15 volts), an ammeter & voltmeter with binding terminals for mounting components & patch cords to rig-up the circuit. The student can find out Norton's voltage & Norton's resistance.



4) RECIPROCITY THEOREM

The system is laid out on a polycarbonate panel with neat labeling. The scope of supply includes a 1 no of variable power supply, 1 no ammeter, 1 no of DMM with facility to rig-up the circuit & patch it up.



5) STUDY OF TRANSIENT RESPONSE

The set-up is designed to study the transient response of an R-C Network with built in power supply, an ammeter & voltmeter with stopwatch. Neatly labeled polycarbonate panel has binding terminals to fix the components.

6) STUDY OF SERIES & PARALLEL RESPONSE

The set-up is laid out on a polycarbonate panel with neat labeling to rig up series and parallel resonance circuit with the help of standard resistances, inductances

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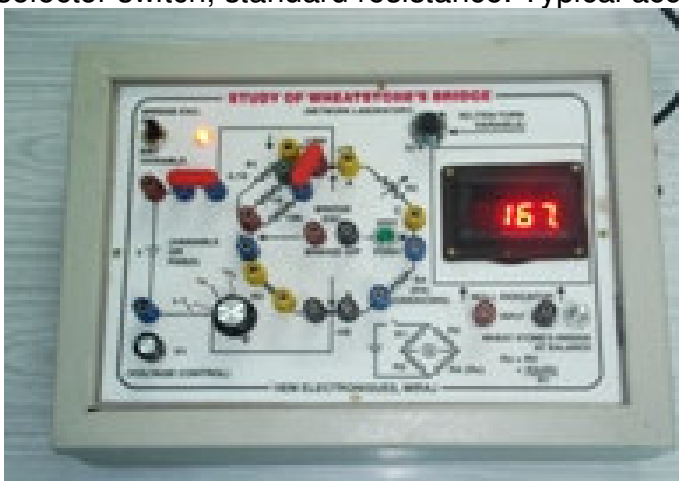
(with tapings) & condenser bank. 3 no of DMM with an ammeter. (2 no will be supplied). External signal generator & CRO required to study the system.

7) STUDY OF WHEAT-STONE BRIDGE

This demonstration set-up is operated from 230 volts, 50 Hz mains supply & includes 100 uA Galvanometer for null balance. The panel has provision for ratio selector switch, standard resistance. Typical accuracy is +/- 2%.



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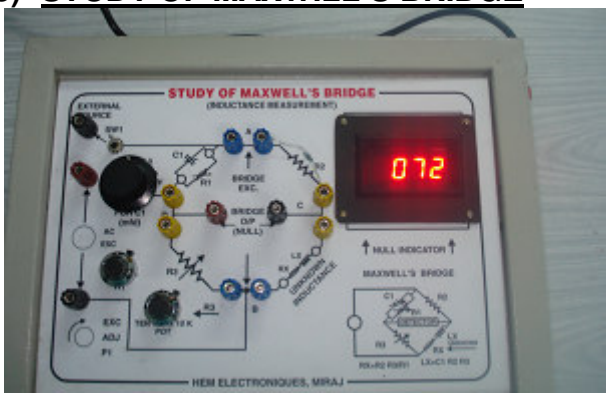
8) STUDY OF MAXWILL'S BRIDGE



This demonstration set-up enables measurement of unknown inductance in terms of known capacitance. The use of standard arm offers the advantage of components & shielding. Typical accuracy for this polycarbonate, neatly labeled instruments is +/- 2%. It is a mains operated system.
The set-up laid out on polycarbonate panel with neat labeling.
Scope of supply includes,

a) Ammeter
b) voltmeter
c) Good quality multimeter
d) Standard resistor bank

9) STUDY OF SCHERING BRIDGE

This is a demonstrating model for measurement of capacitance and its insulating properties. The standard capacitor is a high quality low loss component. It uses 10V pp. 50 Hz sine wave execution which is in built .With necessary standard capacitances. A pair of terminals is provided to connect the unknown capacitor. Overall accuracy of this demo-set up is +/- 3%.It is a mains operated system.

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10) STUDY OF WEIN BRIDGE:

This Wein;s bridge is mainly designed to demonstrate the principle of frequency measurement with the help of unknown R-C components on a neatly labeled polycarbonate panel. External signal generator can be connected .The frequency is measured in audio rays.

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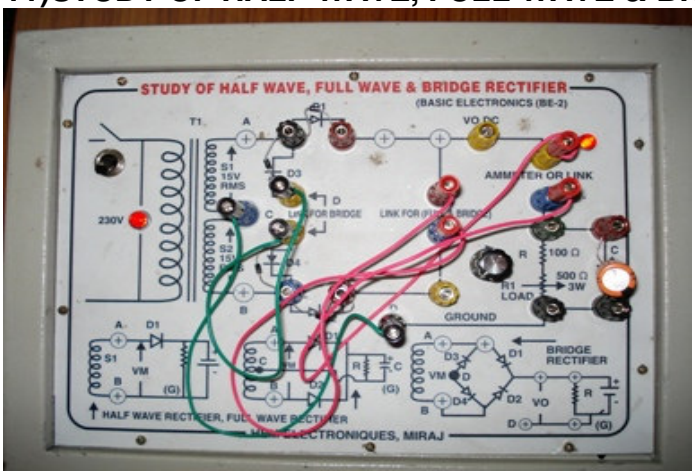
11)STUDY OF HALF WAVE, FULL WAVE & BRIDGE RECTIFIER)



The unit is laid out neatly labeled polycarbonate panel with diagrams. The circuit diagram for a particular combination (Half wave, Full wave & Bridge Rectifier) is printed with terminals properly labeled to & students to patch the circuit to be studied. Load consists of fix resistance and variable resistance with provision for connection of filtering condenser. All the illustrative calculation for % regulation, ripple factor etc. are provided in the detailed manual for student's ready reference and understanding. The unit is enclosed in MS powder coated box.
Panel Size: 35*26*9 cms

12) STUDY OF COMMON EMITTER AMPLIFIER

The unit is laid out on neatly labeled polycarbonate panel with diagram. The widely used common emitter amplifier is biased on self-biased system with (RB1, RB2 & RE). The RB1 is made variable & students can select the Quiescent

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operating point by adjustment of a variable RB1. The coupling condensers at input & output can be connected across the terminals & can be changed readily. The base current can be measured & by means IcRc drop, Ic can be calculated. which means

hFE = β = Ic/Ib for given transistor can be found out. The system has built in 24-volt regulated power supply & a low frequency signal generator for immediate testing. External signal can be used to find out frequency response & characteristics of amplifier gain.. The unit is enclosed in MS powder coated box.
Panel Size: 35*26*9 cms.

13)STUDY OF P-N JUNCTION DIODE CHARACTERISTICS

14)STUDY OF DIGITAL GATES

IC's 7404,7432, 7408 to perform logic gates practical: