

## Department of Physics

1. To study the characteristics of a series RC Circuit & To study the response curve of a parallel LCR circuit and determine its (a) resonant frequency and (b) Quality factor Q  
Charging & Discharging of Capacitor. 01

2. To study the characteristics of a series & Parallel of RC Circuit 01

3. To verify the Thevenin and Norton theorems. & verify the Superposition, and Maximum power transfer theorems 01

All in one Combined Model having all 6 Theorem Superposition, Norton's, Thevinin's, Maximum Power, Transfer, Reciprocity & Telegan.

4. Study of V-I & power curves of solar cells, and find maximum power point & efficiency 01

Design Board -Circuit Board made of Plastic with Leg Input Facility for Transparent Component having Leg pins Decade Resistance Box, Digital Multimeter, Lamp Source with Stand Solar Module, Cylindrical Base Switch Module and Power Supply- 2-12 V AC/DC.

5.- Digital to analog converter (DAC) of given specifications & analog to digital convertor (ADC) IC 01

3 bit ADC using comparator and priority encoder Digital o/p indicated on LED  
Unipolar ADC with full scale voltage of 5V 2 bit R to 2R Ladder DAC using OPAMP  
Switches are provided to apply I/P to DAC Power Supply:  $\pm 12V$ , +5V, GND

6. Zener diode- To study Forward & Reverse V-I Characteristics of Zener diode.

7. P-n junction. 04

Instrument comprises of on board Two nos of DC Power Supplies 0-1VDC/150mA, 0 - 30 VDC/150mA, 2 round meters for V & I measurement, PN Junction Diodes mounted behind the panel & LED mounted on the panel, connections of Supplies & LED brought connections of Supplies, Meters, Diodes brought out at 4mm Sockets.

8. Transistor (Npn-pnp) CE/CB/CC with 4/2 on board Analog Meter & Regulated Power supply-

9. Sonometer- complete setup 03

10. Study of multivibrator-Astable./Bistable/Monostable 02

1. DC Regulated Power Supply of: 0 to 5V/ 100mA ( Two Nos.)  
+ 12V/ 250mA  
+ 5V/ 250mA  
12V/250mA AC

2. IC 741, IC 723, & IC 555 is mounted on front panel with there Pin no. & socket for connection

3. Various Resistance, Capacitor, Diode, Zener Diode, LED, Potentiometer are fitted on inside of Panel with sockets.

**11. Susceptibility of Paramagnetic Solution by Quinck's Tube** → 01

Technical Specification: Power Supply for Electromagnet- Digital Voltage : 0-16V DC

continuously variable & stabilized, Voltage display : 3½ digit LCD, Display, Ripple : Less than 25mV Overload : Current limiting protection, Current : 5 A continuously variable, Current display : 3½ digit LED, Digital Gauss Meter with Hall Probe- Range : 200 G & 2 kG, Resolution : 1G at 0 - 200G, Electromagnet – Coils: 400 Turns. Coil Current: 4.5Amp (Max.), Connection: 4mm safety socket. U Core: 150x130mm (LxH), 40x40mm cross section. I Core: Length=150mm, 40x40mm cross section. Core material: Ferromagnetic. Set up including Traveling Microscope- Horizontal travel 170mm, Vertical 110mm, Least Count : 0.01mm Eyepiece Ramsden : 8x, Reticle: 90° Cross on glass Including Accessories: Tube with Stand 1, Connecting Lead Red & Black, Yellow1, Electronic Balance 1, Ferric Chloride (FeCl<sub>3</sub>) 500gm 1, Measuring Cylinder 100ml 1, Pipette 10ml 1SC379 Funnel

**12. Study Characteristics of Hartley Oscillator** 02

Instrument comprises of 30 VDC Regulated Power Supply, Circuit diagram

Printed components mounted on front panel.

**13. To compare the capacitance by De-Sauty bridge.** 01

- a. Copy of Firm Registration Certificate from the competent authority, GST Registration, last 3 Years IT Copy PAN Card copy, Authorization certificate from Manufacturer in case of Dealer. Company / Dealer must have ISO Certified Company.
- b. Specify Brand name and full model name for each item is must, without technical specification quotation could not be consider for technical evaluation.
- c. Include the Complete printed Company catalogue is mandatory, Each item, equipment should be complete in itself without needing any extra requirements.

Note-The selection for procurement of equipment's will be based on quality and past performance along with cost. In this context decision of technical committee is final based on documentary evidence or actual physical verification.

*Balki*  
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