

VARIABLE CONVERSION ELEMENTS

Bridge circuits:-

-accurate method

-null and deflection types

Null type,d.c. bridge (Wheatstone bridge):-

- $I_1 = I_3$ and $I_2 = I_4$
- $R_2 = R_3$ and $R_U = R_V$

Deflection type d.c. bridge:-

- R_V is replaced by fixed R_1

Error analysis:-

-maximum measurement error determined by value of R_U

A.C Bridges:-

Null-type impedance bridge:-

-variable capacitance box

-Maxwell bridge

Maxwell bridge:-

-unknown inductances

-two variable resistance boxes

-one standard fixed value resistor

Resistance measurement :-

-D.C. bridge circuit

-voltmeter-ammeter method

-resistance substitution method

-use of digital voltmeter to measure resistance

-ohmmeter

- code for resistor values

Inductance measurement:-

- henry (H)

Capacitance measurement:-

- Farads (F)

- Alphanumeric codes for capacitor values

Current measurements:-

- d.c. current measurements

- current transformers

Frequency measurement:-

- hertz(H)

Digital counter-timers:-

- flexible instrument

- gating arrangements

Phase-locked loop:-

- phase-sensitive detector

- voltage-controlled oscillator(VCO)

Cathode ray oscilloscope:-

Wien bridge:-

Phase measurement:-

- electronic counter timer

- X-Y plotter

- oscilloscope

- Phase-sensitive detector

