

Course Code: ETU302

Course Name: Components, Devices and Instrument Technology

Date: 26/09/14

Duration: 01 Hr

Max Marks: 15

Class Test II

- ~~Q1~~
- 2] Name all the basic monolithic processes. Explain silicon wafer formation in detail. 05
What are the different isolation techniques used in monolithic IC fabrication? 05
- OR
- 3] Define the terms: (1) Accuracy (2) Resolution (3) Precision (4) Significant figure 05
And solve : The desired value of the voltage across a resistor is 75V. However the measurement gives a value of 72V.
Calculate: (1) Absolute error (2) %error (3) Relative accuracy (4) % of accuracy 05
- 4] How are we going to eliminate the effects of connecting leads in Kelvin bridge?
And solve: In a Kelvin bridge, the ratio of R_a to R_b is 1000 ohm. R_1 is of 5 ohm & $R_1 = 0.5R_2$.
What is the value of R_x .

$$R = \frac{R_1}{R_2} = \frac{a}{b}$$

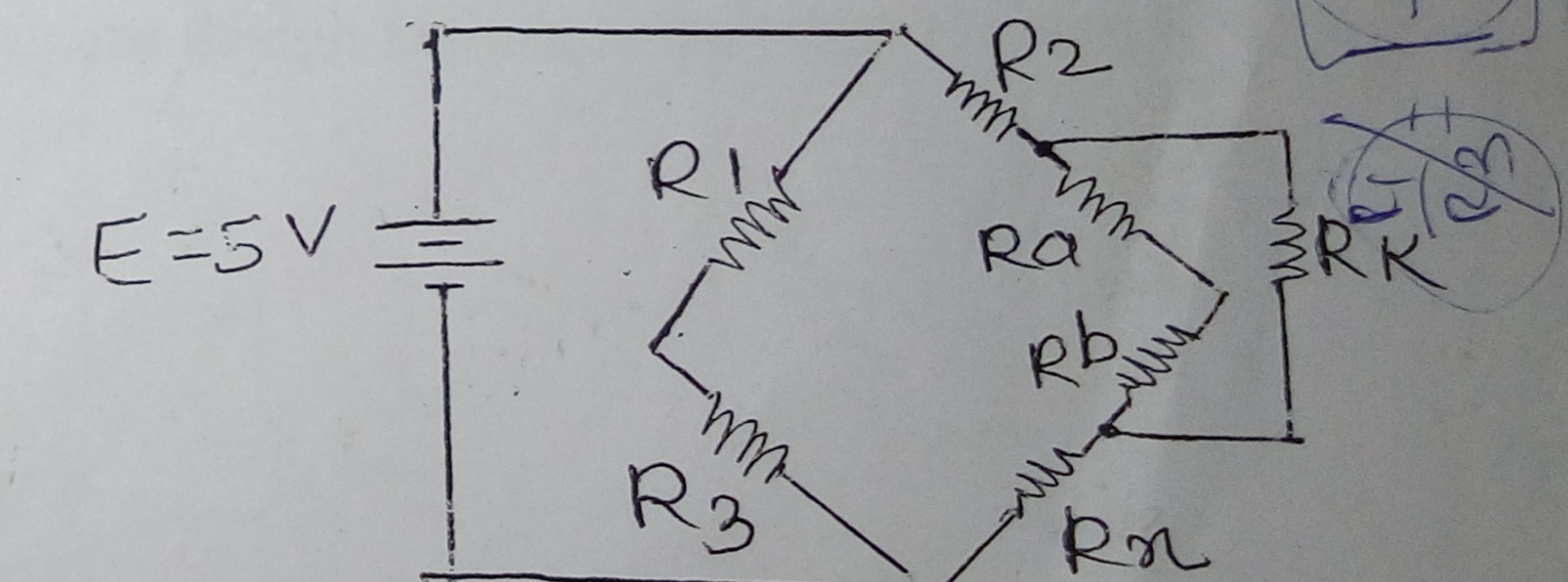


Fig. Kelvin bridge

GOVERNMENT COLLEGE OF ENGINEERING AMRAVATI
DEPARTMENT OF ELECTRONICS

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ATTEMPT ANY TWO from Q.2, Q.3 and Q.4

- Q.1 Determine the meaning of code printed on variable resistors and capacitors 05
a] Variable Resistors i) 100 ii) 105 iii) 4R7 iv) 0R07
b] Capacitors i) 22 ii) 330 iii) 471 iv) 224
c] Switches have dual on/off contact and is called -----
d] ----- is a switch operated by magnetic force.
- Q.2 Enlist and explain the polarized and non-polarized capacitor with construction. How to test it? 05
- Q.3 Which relay can handle the most power? How switches, relays and fuses are used on the basis of applications? 05
- Q.4 What is the heat transfer principle in heat sinks? Explain design factors of heat sinks in detail. 05