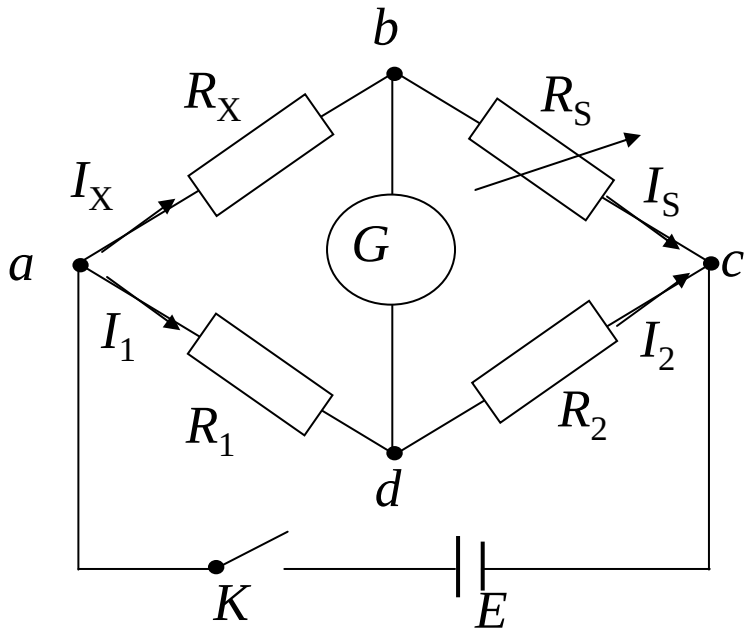
# 2.5

1



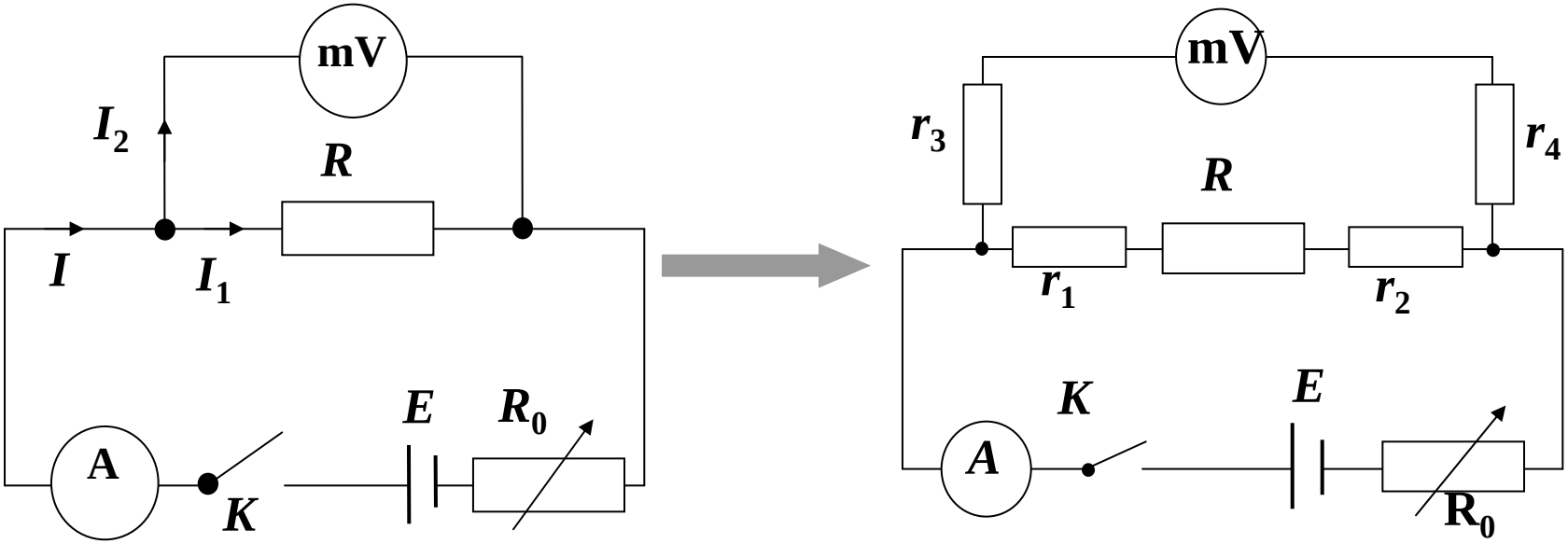

$$I_g \mid 0$$

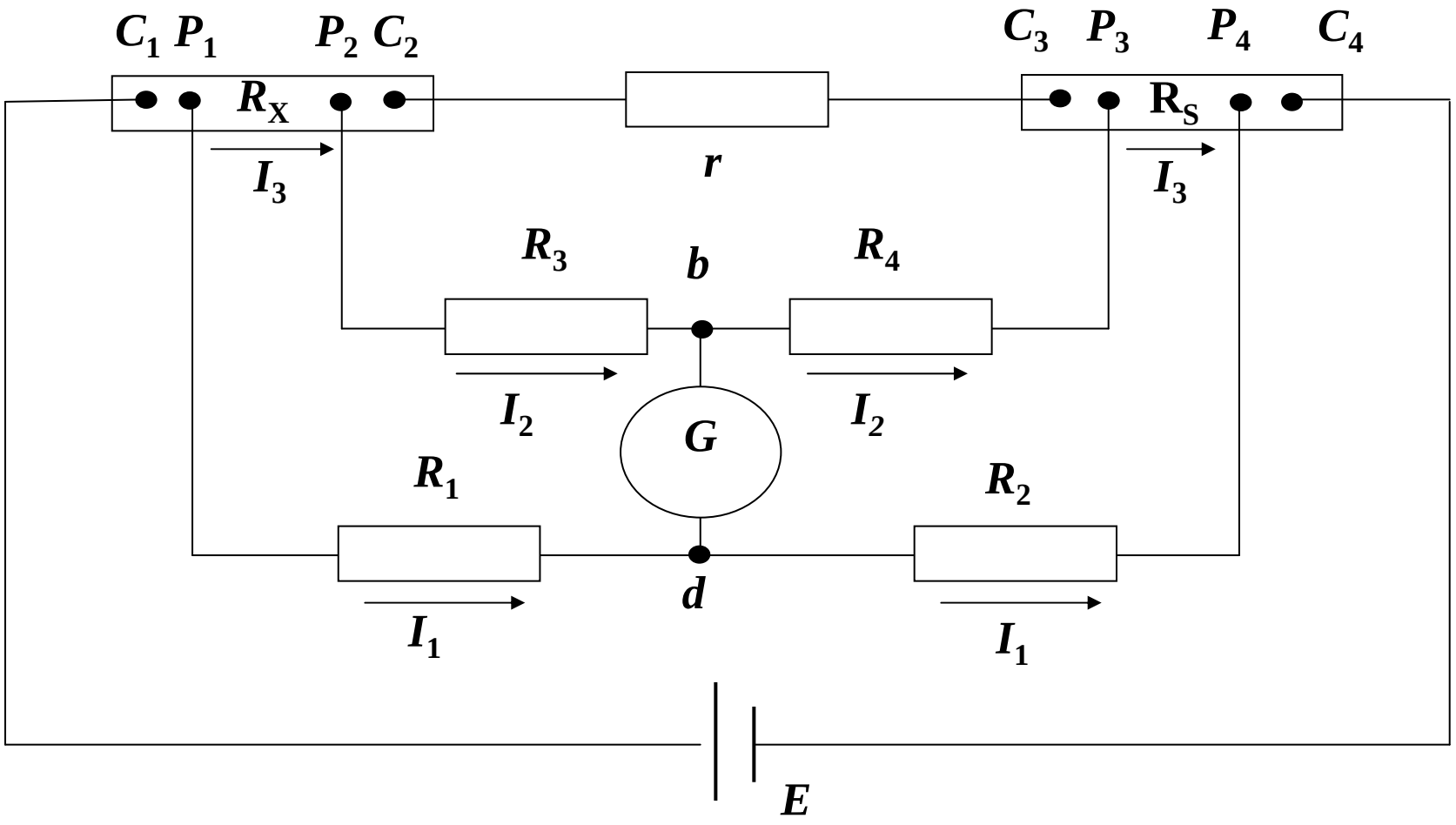
$$I_1 R_1 \mid I_X R_X \qquad I_2 R_2 \mid I_S R_S$$

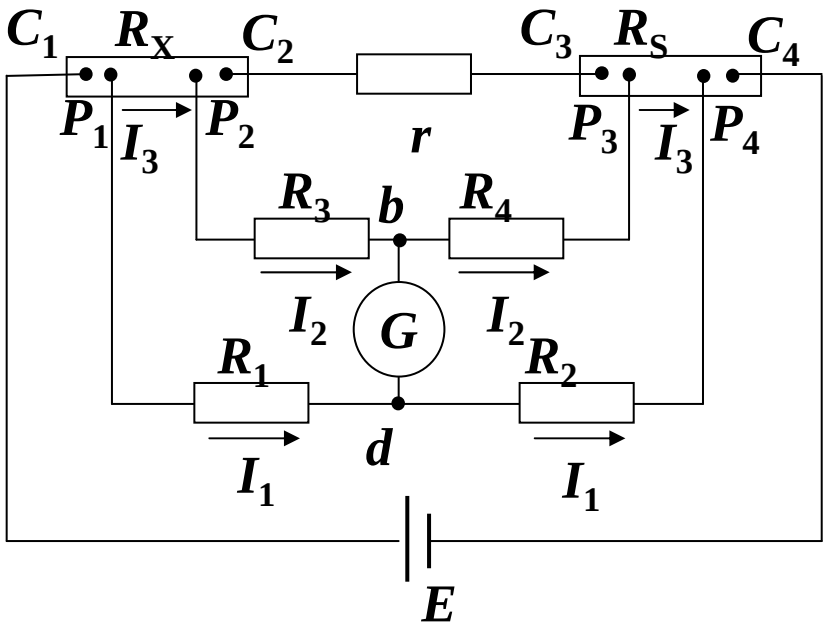
$$I_1 \mid I_2 \qquad I_X \mid I_S$$

$$R_X \mid \frac{R_1}{R_2} R_S$$

2




C1 P1
P2 C2
C3 P3
P4 C4
RX
RS
r
I3
I3
R3
b
R4
I2
I2
G
R1
R2
d
I1
I1
E




$$I_g \mid 0$$

$$I_1 R_1 \mid I_3 R_X \; 2 \; I_2 R_3$$

$$I_1 R_2 \mid I_3 R_N \; 2 \; I_2 R_4$$

$$I_2 / R_3 \; 2 \; R_4 \; 0 \mid / I_3 \; 4 \; I_2 \; 0 \; r$$

$$\rightarrow \quad R_X \mid \frac{R_1}{R_2} R_S \; 2 \; \frac{r R_4}{R_3 \; 2 \; R_4 \; 2 \; r} \left( \frac{R_1}{R_2} \; 4 \; \frac{R_3}{R_4} \right) \mid \frac{R_1}{R_2} R_S \; 2 \; N$$

$$\rightarrow \quad \boxed{R_X \mid \frac{R_1}{R_2} R_S}$$

1.

(1)

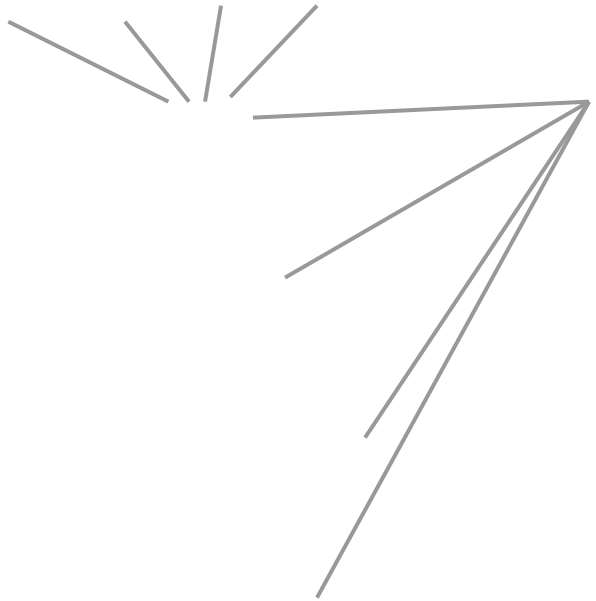
0 1 2

5

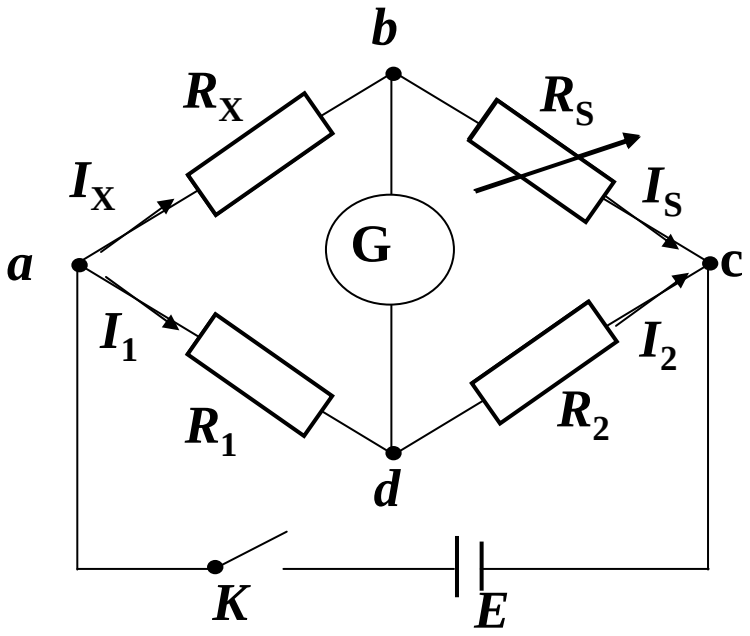
6 7 8

9

-1 -2



(2)




1

$$R_X \mid \frac{R_1}{R_2} R_S$$

(3)

“ ” 4

B G ,

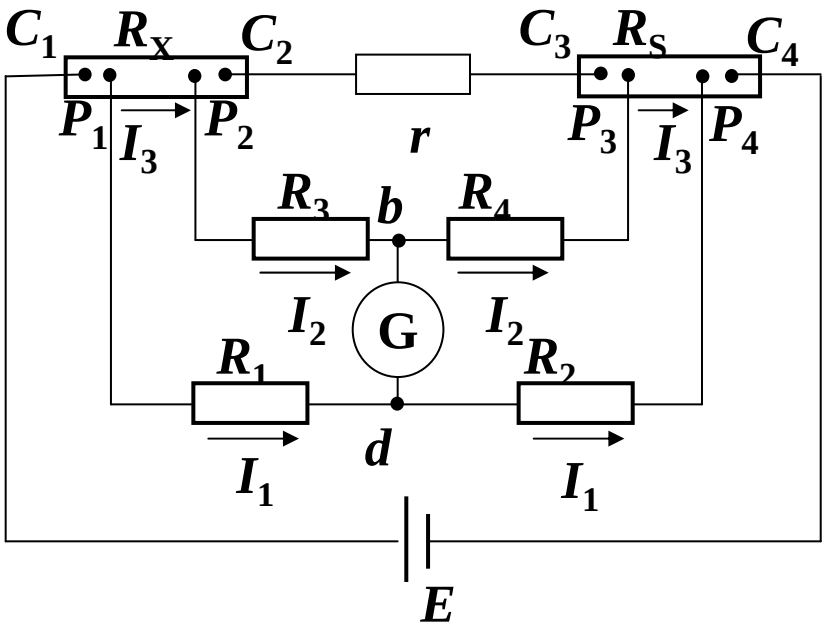
2-11

2-9 $E_{\lim}$ ÷

2-11

## 2.

## (1)

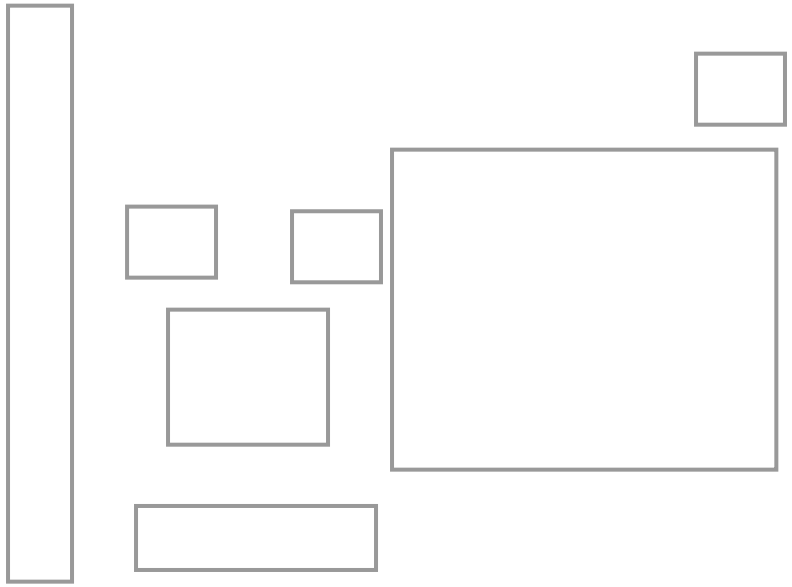



$$R_X \mid \frac{R_1}{R_2} R_S$$

(3)

“ ”

B G ,



(2)

**6**

**6**

| | 1 | 2 | 3 | 4 | 5 | 6 | |
|---|---|---|---|---|---|---|---|
| K | | | | | | | |
| | | | | | | | |
| $R_x$ | | | | | | | |
| (mm) | | | | | | | |
| (mm) | | | | | | | |

3.

(1)

$$\overline{\psi} \mid \overline{R}_x \frac{\phi \overline{d}^2}{4\overline{l}}$$

$$\overline{\psi}$$

(2)

$$U_{\psi} \mid \overline{\psi} \sqrt{\left(\frac{U_{R_X}}{\overline{R}_x}\right)^2 \left(2\frac{U_l}{\overline{l}}\right)^2 \left(2\frac{2U_d}{\overline{d}}\right)^2}$$

(3)

$$\psi \mid (\overline{\psi} \partial U_{\psi})$$

***d***

$$U_d = \sqrt{u_{Ad}^2 + u_{Bd}^2}$$

$$u_{Ad} = \sqrt{\frac{1}{6(6-1)}\sum_{i=1}^{6}(d_i - \bar{d})^2} \qquad u_{Bd} = \div = 0.004\ mm$$

***l***

$$U_l = \sqrt{u_{Al}^2 + u_{Bl}^2}$$

$$u_{Al} = \sqrt{\frac{1}{6(6-1)}\sum_{i=1}^{6}(l_i - \bar{l})^2} \qquad u_{Bl} = \div = 0.02\ mm$$

$R_x$ $U_{R_x} = \sqrt{u_{AR_x}^2 + u_{BR_x}^2}$

$u_{AR_x} = \sqrt{\frac{1}{6 \cdot 5} \sum_{i=1}^{6} (R_i - \bar{R}_x)^2}$ $u_{BR_x} = \frac{}{}$ $E_{\lim}$

**QJ42**

$$E_{\lim} = \left| C\% \cdot \frac{R_N}{100} + X \right|$$

**C** $R_N$ **X**

$R_x$