

Tugas fisika

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Kelas Tekom C

Fisika
Rangkaian seri nilai resistor

Sandi a
Date: teknik C

$\boxed{R_1} \parallel \boxed{R_2} \parallel \boxed{R_3}$

1. hijau-orange-hitam-perak
2. kuning-merah-merah-emas
3. hijau-hijau-orange-x
4. orange-kuning-kuning-perak
5. abu-abu-hitam-merah-emas
6. ungu-hijau-hitam-x
7. ungu-merah-ungu-perak
8. hijau-hijau-hijau-x
9. biru-hijau-ungu-emas
10. kuning-hijau-biru-x

$I = 2A$
 $V = 5V$
1. $R_1 = 10\text{k}\Omega$
 $R_2 = 15\text{k}\Omega$
 $R_3 = ?$ $I_{\text{total}} = ?$
 $V = 15V$ $V : R_1 = ?$
 $I = ?$

2. $R_1 = 255\text{k}\Omega$
 $R_2 = 70\text{k}\Omega$
 $R_3 = 150\text{k}\Omega$
 $V = 15V$ $V : R_1 = ?$
 $I = ?$

3. $V = 5V$
 $R_1 = 100\text{k}\Omega$
 $R_2 = 25\text{k}\Omega$
 $R_3 = ?$ $I = ?$

Rangkaian paralel

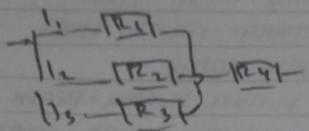
Diagram rangkaian paralel:

1. $V_{ab} = 5V$ $R_1 = 10\text{k}\Omega$
 $I_1 = 0.5A$ $R_2 = 150\text{k}\Omega$
 $R_3 = 200\text{k}\Omega$

2. $V_{ab} = 5V$
 $R_1 = 15\text{k}\Omega$ $R_2 = 50\text{k}\Omega$
 $R_3 = 100\text{k}\Omega$
 $I_1 = ?$ $I_2 = ?$ $I_3 = ?$

3. $V_{ab} = 5V$
 $R_1 = 150\text{k}\Omega$ $R_2 = 25\text{k}\Omega$
 $R_3 = 100\text{k}\Omega$
 $I_1 = ?$ $I_2 = ?$ $I_3 = ?$

Rangkaian kombinasi



1. $R_1 = 100 \Omega$ $R_4 = 100 \Omega$
 $R_2 = 1 \text{ k}\Omega$ $R_3 = ?$
 $R_3 = 15 \Omega$

3. $R_1 = 100 \Omega$
 $R_2 = 47 \Omega$
 $R_3 = ?$
 $R_4 = 150 \Omega$
 $I_{BC} = I = 2A$
 $V_{AC} = 15V$

2. dari soal 1 berapa V_{BC} ?
bila $I = 2A$

Rangkaian seri

1.

$$V = 1 \cdot R$$

$$I = \frac{V}{R}$$

$$= \frac{5}{30k} = 0,00016 A$$

$$\begin{aligned} R_t &= R_1 + R_2 + R_3 \\ &= 10k\Omega + 15k\Omega + 5k\Omega \\ &= 30k\Omega \end{aligned}$$

2. $R_t = R_1 + R_2 + R_3$

$$= 25,5k + 70 + 150$$

$$= 25,500 + 70 + 150$$

$$= 25.720 \Omega$$

$$I = \frac{V}{R}$$

$$= \frac{15}{25.720} = 0,00058 A$$

3. $R_t = R_1 + R_2 + R_3$

$$100 = 25 + 15 + R_3$$

$$R_3 = 100 - 40$$

$$= 60k\Omega$$

$$I = \frac{V}{R}$$

$$= \frac{5}{100k}$$

$$R = 25k\Omega + 15k\Omega + 60k\Omega = \frac{5}{100000} = 0,00005 A$$

$$R_{total} = 100k\Omega$$

nilai resistor

1. $53\Omega 10\% - (47,7 - 58,3\Omega)$

2. $420\Omega 5\% - (399 - 441\Omega)$

3. $55k\Omega 20\% - (44k - 66k\Omega)$

4. $330k\Omega 10\% - (297k - 363k\Omega)$

5. $810\Omega 5\% - (769,5 - 850,5\Omega)$

6. $75\Omega 10\% - (60 - 90\Omega)$

7. $710m\Omega 10\% - (648m - 792m\Omega)$

No.

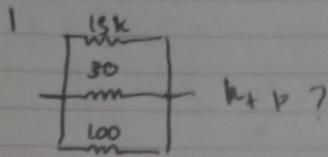
Date

$$8.65 \text{ m} \cdot \text{m} 10\% - (5.225.000 - 5775.000 \text{ m})$$

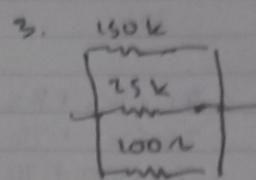
$$9. 65 \text{ kN } 5\% - (61.750 - 68250 \text{ N})$$

$$10. 45 \text{ m} \cdot \text{m} 20\% - (36 \text{ m} - 54 \text{ m}^2)$$

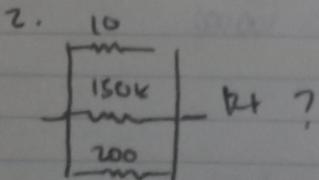
Rangkalan paralel



$$\begin{aligned} I &= \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \\ \frac{1}{R_1} &= \frac{1}{15k} + \frac{30}{15k} + \frac{100}{15k} \\ &= \frac{951}{15k} = \frac{15k}{951} = 33,25 \text{ A} \end{aligned}$$



$$\begin{aligned} I_1 &= ? = \frac{1}{R_1} = \frac{1}{150k} \\ &= 6,000003 \text{ A} \\ I_2 &= ? = \frac{1}{R_2} = \frac{1}{25k} \\ &= 6,00002 \text{ A} \end{aligned}$$



$$\begin{aligned} I_3 &= ? = \frac{1}{R_3} = \frac{1}{100} \\ &= 0,05 \text{ A} \end{aligned}$$

$$\begin{aligned} I_{2t} &= \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \\ &= \frac{1}{150k} + \frac{1}{150k} + \frac{750}{150k} \\ &= \frac{15,751}{150k} = \frac{150k}{15,751} = 9,52 \text{ A} \end{aligned}$$

Penangkalan kombinasi

$$1. \frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$
$$= \frac{1}{100} + \frac{1}{1000} + \frac{1}{15.000}$$
$$= \frac{150 + 15 + 1}{15.000}$$

$$= \frac{166}{15.000}$$

$$R = \frac{15.000}{166}$$

$$= 90,36$$

$$R_p = 90,36$$

$$R_t = 90,36 + 100k$$

$$= 100.090,36 - n$$

$$2. V = 112$$

$$= 2.100.090,36$$

$$= 700 \cdot 180 \cdot 72 V$$

$$3. R_t = R_p + R_u \quad R = \frac{V}{I} = \frac{15}{2} = 7,5 - n$$
$$= R_p + 150.000$$