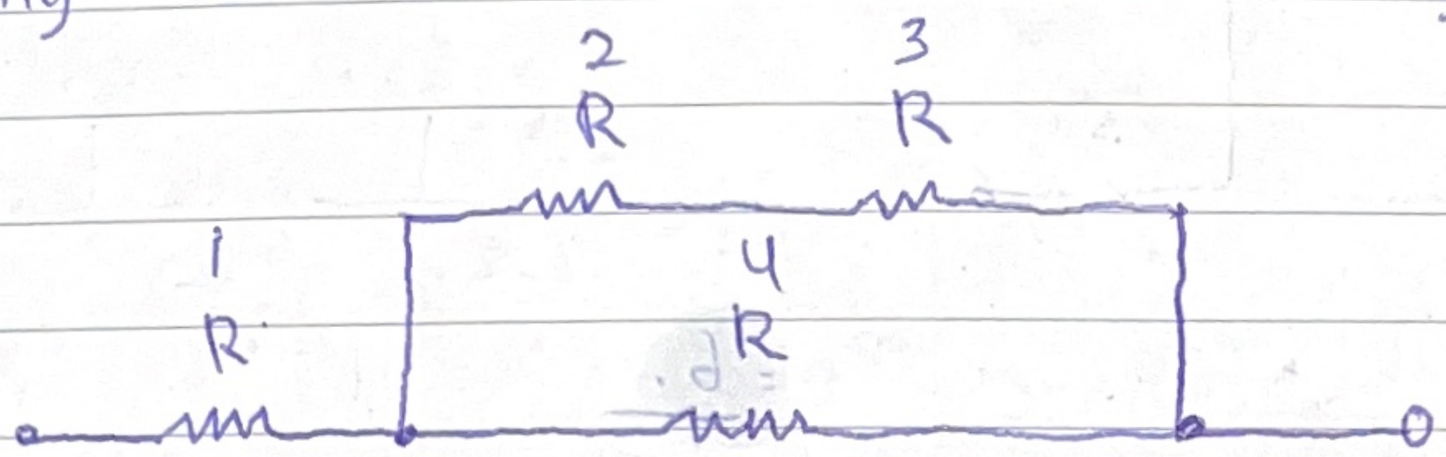
Tugas Elektronika

No Haikal
Date 1 AEC 4

Hitung R ekuivalen / Total dari rangkaian dibawah!

1.



Jawaban :

$R_{2//3} = R + R$

$= 2R\,\Omega$

$Rp = \frac{R_{2//3} \times R_4}{R_{2//3} + R_4}$

$= \frac{2 \times 1}{2+2}$

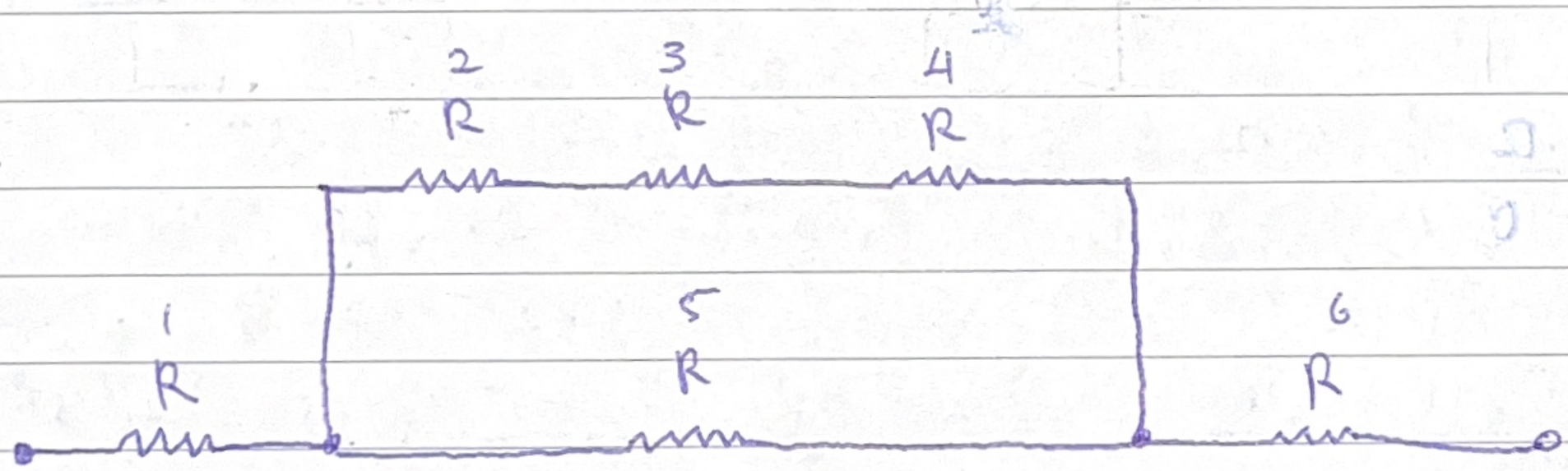
$= 0{,}67\,\Omega$

$R_{total} = R1 + Rp$

$= 1 + 0{,}67$

$= 1{,}67\,\Omega$

2.



$RS = R + R + R$

$= 3R\,\Omega$

$Rp = \frac{Rs \times R5}{Rs + R5} = \frac{3 \cdot 1}{3+1} = 0{,}75\,\Omega$

$R_{total} = Rp + R1 + R6$

$= 0{,}75 + 1 + 1 = 2{,}75\,\Omega$

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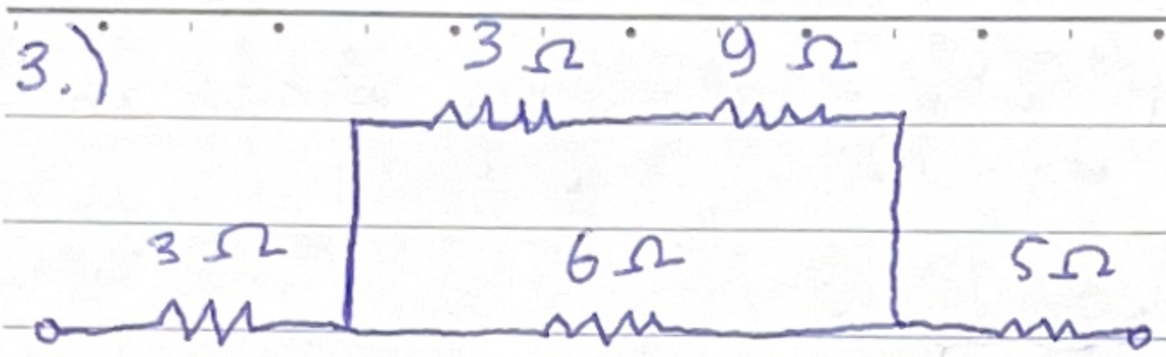
3.)



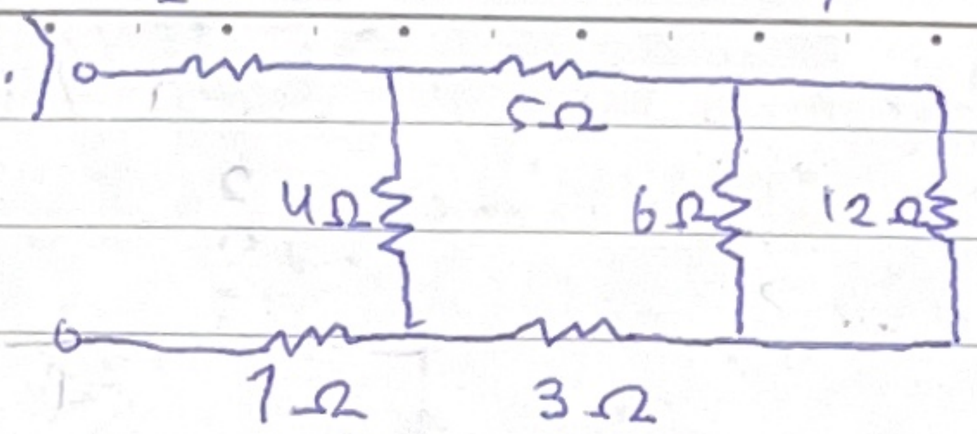
$R_S = 3 + 9 = 12$

$R_P = \frac{R_S * 6}{R_S + 6} = \frac{12.6}{12+6} = \frac{72}{18} = 4\Omega$

$R_{total} = R_P + R_1 + R_5$

$= 4 + 3 + 5 = 12\Omega$

4.)



$R_{P_1} = \frac{6.12}{6+12} = 4\Omega$ $R_{S_1} = R_P + 5 + 3$

$= 4 + 5 + 3$

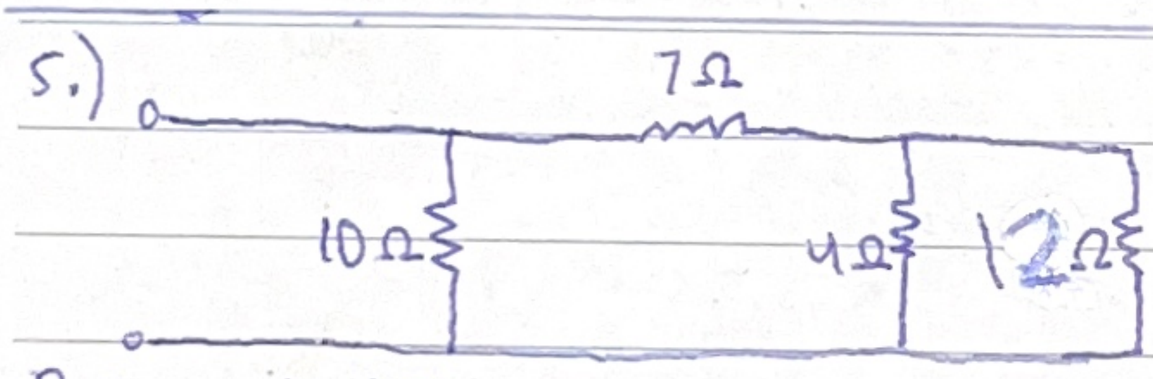
$= 12\Omega$

$R_{P2} = \frac{R_{S1} \cdot 4}{R_{S1} + 4} = \frac{12.4}{12+4} = 3\Omega$

$R_{total} = R_{P2} + 2 + 1$

$= 3 + 2 + 1 = 6\Omega$

5.)

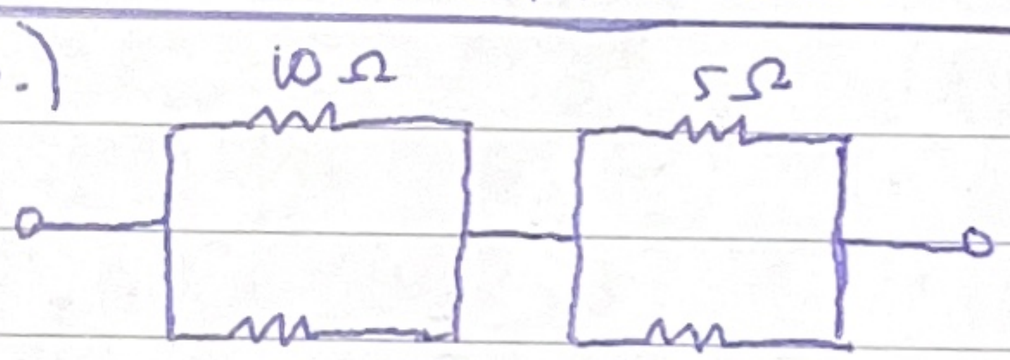


$R_P = \frac{4.12}{4+12} = 3\Omega$

$R_S = 7 + R_P = 7 + 3 = 10\Omega$

$R_{tot} = \frac{R_S \cdot 10}{R_S + 10} = \frac{10 \times 10}{10+10} = 5\Omega$

6.)



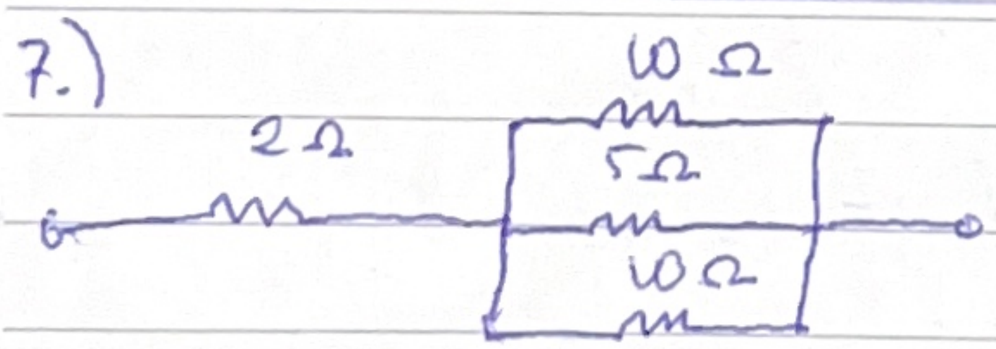
$R_{P_1} = \frac{10.2}{10+2} = \frac{20}{12} = 1,67$

$R_{P2} = \frac{15 \times 5}{15+5} = \frac{75}{20} = 3,75$

$R_{tot} = R_{P1} + R_{P2}$

$= 1,67 + 3,75 = 5,42\Omega$

7.)



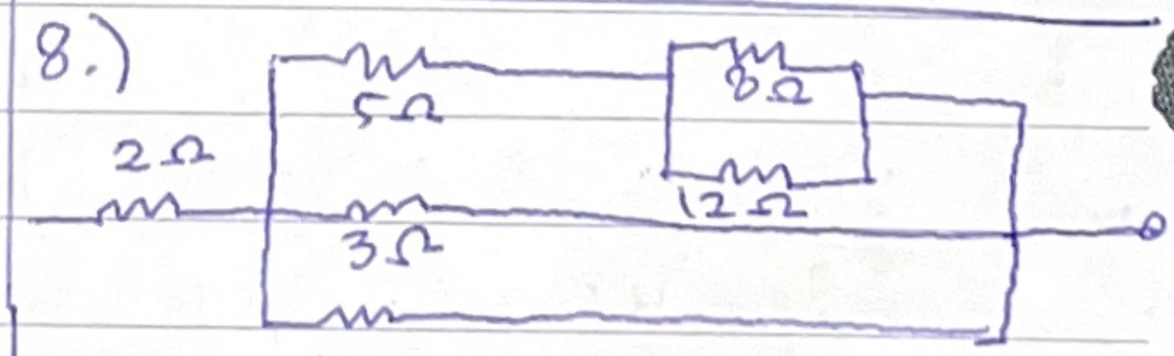
$R_{P1} = \frac{1}{10} + \frac{1}{5} + \frac{1}{10} = \frac{1+2+1}{10}$

$= \frac{4}{10} = 2,5\ \Omega$

$R_{tot} = R_P + 2$

$= 2,5 + 2 = 4,5\Omega$

8.)



$R_P = \frac{8.12}{8+12} = 4,8\Omega$ $R_{S1} = 5 + R_P$

$= 5 + 4,8$

$= 9,8\Omega$

$R_{P2} = \frac{1}{R_{S1}} + \frac{1}{3} + \frac{1}{6}$

$= 1,66\Omega$

$R_{tot}\ 2 + R_{P2}$

$= 2 + 1,66 = 3,66\Omega$