

Preparation

Student Group

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Do math right

- calculate fractions in fractions correct:
$$\begin{aligned} & \left\{ \left\{ \frac{A}{B} \right\} \over C \right\} \quad \neq \quad \left\{ \frac{A}{\left\{ \frac{B}{C} \right\}} \right\} \\ & \left\{ \frac{A}{\left\{ \frac{B}{C} \right\}} \right\} \neq \left\{ \frac{A}{B \cdot C} \right\} \\ & \left\{ \frac{A}{\left\{ \frac{B}{C} \right\}} \right\} = \frac{A \cdot C}{B} \end{aligned}$$
- Rearrange fractions correct: based on $\beta = \frac{I_C}{I_B}$ on **cannot** derive $I_B = \frac{\beta}{\beta + 1} I_C$.

Do physics right

- Check the units. e.g. dB cannot be converted in V
- Prove you (mis)conceptions on impedances
 - Check whether Z or $\underline{Z}$ is needed in formulas: $Z \neq \underline{Z}$
 - impedances are not (only) resistors, at least do not think of R is given as $\underline{Z}$.
 - For purely ohmic components the other way around is correct: $\underline{Z} = R$.
 - However, impedances 'act' like ohmic resistors in formulars.
E.g. for the series circuit: $R_{\text{eq}} = R_1 + R_2 + R_3 + \dots \rightarrow \underline{Z}_{\text{eq}} = \underline{Z}_1 + \underline{Z}_2 + \underline{Z}_3 + \dots$

Do exam right

- Do not miss out questions. Sometimes there is more than one answer required

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