

# Exam Winter Semester 2022

## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

- task kyt15w11e3sempb2 with calculation

resistivity power exam\_ee1\_ss2023 Resistivity and temperature dependent Resistance (written test, approx. 7 % of a 60-minute written test, SS2023) The resistance of the dielectric material of a film capacitor has to be calculated. The given film capacitor has an internal surface of  $A=100 \text{ dm}^2$   $d=0.8 \text{ }\mu\text{m}$   $\rho_{PP}(20 \text{ }^\circ\text{C})=10^{17} \text{ }\Omega\text{m}$   $\alpha = -0.048 \text{ } 1/\text{K}$   $\beta = +0.00057 \text{ } 1/\text{K}^2$   $R(20 \text{ }^\circ\text{C}) = \rho \cdot \dots$

- task kyt15w11e3sempb2 with calculation

resistivity power exam\_ee1\_ss2023 Resistivity and temperature dependent Resistance (written test, approx. 7 % of a 60-minute written test, SS2023) The resistance of the dielectric material of a film capacitor has to be calculated. The given film capacitor has an internal surface of  $A=100 \text{ dm}^2$   $d=0.8 \text{ }\mu\text{m}$   $\rho_{PP}(20 \text{ }^\circ\text{C})=10^{17} \text{ }\Omega\text{m}$   $\alpha = -0.048 \text{ } 1/\text{K}$   $\beta = +0.00057 \text{ } 1/\text{K}^2$   $R(20 \text{ }^\circ\text{C}) = \rho \cdot \dots$

- task rj0r6j4apumukrj6 with calculation

resistivity power exam\_ee1\_ws2022 Resistance of a Wire by Resistivity (written test, approx. 6 % of a 60-minute written test, WS2022) A heating element made of a Nichrome wire with a round cross-section is used in an electric oven. Nichrome is a common Nickel Chromium alloy for heating elements.  $1.10 \cdot 10^{-6} \text{ }\Omega\text{m}$   $3.57 \text{ mm}$   $R = \rho \cdot \frac{l}{A}$   $A = r^2 \cdot \pi = \frac{1}{4} d^2 \cdot \pi$   $R = \rho \cdot \frac{4 \dots}{\dots}$

- task rj0r6j4apumukrj6 with calculation

resistivity power exam\_ee1\_ws2022 Resistance of a Wire by Resistivity (written test, approx. 6 % of a 60-minute written test, WS2022) A heating element made of a Nichrome wire with a round cross-section is used in an electric oven. Nichrome is a common Nickel Chromium alloy for heating elements.  $1.10 \cdot 10^{-6} \text{ }\Omega\text{m}$   $3.57 \text{ mm}$   $R = \rho \cdot \frac{l}{A}$   $A = r^2 \cdot \pi = \frac{1}{4} d^2 \cdot \pi$   $R = \rho \cdot \frac{4 \dots}{\dots}$

From: <https://mexle.te.hs-heilbronn.de/> - MEXLE Wiki

Permanent link: [https://mexle.te.hs-heilbronn.de/electrical\\_engineering\\_1/ws2022\\_exam?rev=1676151031](https://mexle.te.hs-heilbronn.de/electrical_engineering_1/ws2022_exam?rev=1676151031)

Last update: 2023/02/11 22:30

