

## Written exam in the subject

# Electrical Machines and Drives

09/13/2024

First name:

Last name:

Matriculation number:

Study program:

Instructions:

- You can only take part in the exam, if you are registered in the PAUL system. If you take part without registration, the exam result will not be considered.  
Sie können nur teilnehmen, wenn Sie auch für die Prüfung angemeldet sind.
- Please prepare your student ID card (with photo) on your desk for the attendance check.  
Bitte halten Sie Ihren Studierendenausweis sowie Ihren Personalausweis bereit.
- Please label each exam sheet with your name and student number. Use a new exam sheet for each task. Do not use pencils or red pens.
- All answers must be given with a complete solution.
- With numerical calculations, the units must be considered in every step. Not following that rule will result in deduction of points.
- All solutions must be clearly documented and wherever required explained! The entry of a mere final result without any approach will not be counted.
- Pens (except red pens and pencils), a ruler, and a non-programmable calculator without graphic display are permitted as aids.
- The exam time is 120 minutes.

Evaluation:

Task	1	2	3	4	$\Sigma$
Maximum score	5	2	0	0	7
Achieved score					

## Task 1: Fundamentals of the magnetic field

[5 Points]

### Aufgabe 1: Grundlagen des magnetischen Feldes

1.1 Calculate

[3 Points]

1.1 Berechne

1.2 Draw

[2 Points]

1.2 Zeichne

## Task 2: DC machine

[2 Points]

### Aufgabe 2: DC Maschine

Given is a DC machine

Gegeben ist eine DC Maschine

2.1 Calculate

[2 Points]

2.1 Berechne