

ECE 3600 Exam 3 Study Guide

The 3rd Exam will be on Wednesday 11/20/24

Exam is **closed book**, except for the note sheets handed out in class for exam 1, 2 and exam 3. You may add to these sheets. The first part may be questions, ~ 15 - 25 points. The second part will be problems.

The exam will cover

1. Synchronous motors

Know the phasor diagram! Problems like Hw SG1 & SG2

2. Single phase induction motors

Phase shift calculations

3. DC motors

Know the model!

Powers P_{conv} P_{out} etc. η

Torques & speeds & speed control

Torque / speed curves

Series-wound & universal motors

4. Motor loads

Types

Torque / speed curves

5 HW TL1 & 2, Transmission Lines

Short, **Med**, Long Z_C

Series impedance Z_{series}

Shunt admittance & $\frac{Y_{\text{shunt}}}{2}$

Shunt impedance & $2 \cdot Z_{\text{shunt}}$

6. Homeworks SG3 - TL2

7. Lab 3

Possible questions

losses, construction,
limits, operation

poles - speed

Operation

Types

Single phase starting

Typ torque-speed curves

Commutator pupose and operation

Basic relationships

DC motor characteristics

PWM

Basic relationships

Common line voltages

Short, Med, Long mi, km

What is & why use bundling

Bringing a generator on line

Download old exams from HW page on class web site. Also look at Exam 2s and Finals and pick out problems that cover the subjects above.