

## ECE 3600 Exam 3 Study Guide

The 3<sup>rd</sup> Exam will be on Thursday 11/17/22

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 will be questions, ~ 15 - 25 points. The second part will be problems.

### The exam will cover

#### 1. 3-phase induction motors

Know how to work with the model.

Powers  $P_{AG}$   $P_{conv}$   $P_{out}$  etc.  $\eta$

Torque & speeds

Types & effect of  $R_2$

No load, Locked rotor, DC tests to find model

#### 2. Single phase induction motors

Phase shift calculations

#### 3. HW DC1 - DC motors

Know the model!

Powers  $P_{conv}$   $P_{out}$  etc.  $\eta$

Torques & speeds & speed control

Torque / speed curves

#### 4. Motor loads

Types

Torque / speed curves

#### 5. Homeworks 9 - DC3

#### 6. Labs 2 - 3

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

### Possible questions

Operation

Slip

Poles - speed

Questions from homeworks

Typ torque-speed curves

What test gives what model part

Operation

Types

Single phase starting

Typ torque-speed curves

Commutator purpose and operation

DC motor characteristics

PWM

Transformer modeling

Bringing a generator on line