

**AC Generator
Homework Problems**

1. (a) Determine the voltages in the time domain for an abc sequence. Use the aa' coil as the reference.
(b) Sketch the three voltages as a function of time on the same graph.
2. (a) Determine the voltages in the phaser domain for the abc sequence.
(b) Draw a phaser diagram showing all 3 voltages on the same diagram.
3. Repeat problem (1) for the acb sequence.
4. Repeat problem (2) for the bac sequence.
5. For a 4 pole, 60 Hz generator, what is the speed in rpm of the rotator?
6. For a 2 pole rotor operating at 7200 rpm, determine the frequency of the generated electrical signal.
7. Design the generator so that if the speed of the rotor in problem (6) halved, the same frequency is maintained.