Benha University
Faculty of Engineering (Shoubra)
Electrical Engineering Department
3rd year Electrical Power

Electrical Machines (2)(EPE312)
1st Semester 2013/2014
Midterm Exam
Time: 1hr

[1] Explain briefly, the construction and principle of operation of the three phase synchronous generator.

[2] A 3-phase, star-connected alternator has an armature resistance of 0.1 ohm per phase and a synchronous reactance 0.66 ohm per phase. Calculate the line value of the no load voltage,E_0, when the alternator supplies a load of 5 MW at terminal voltage 11 kV at a load power factor of (a) unity (b) 0.8 lagging and (c) 0.8 leading. Also draw the phasor diagram in each case.

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