King Fahd University of Petroleum & Minerals
Department of Electrical Engineering

Quiz # 5 EE360 Power Electronics November 2007

Name:_____ ID:_____ Grade:_____

A 220-V DC shunt motor has armature and field winding resistances of 0.15Ω and 110Ω, respectively. The motor draws a line current of 5 A while running at 1200 rpm on no load. When driving a load, the input to the motor is 12 kW. Calculate:

(a) The speed of the motor.

(b) The developed torque.

(c) The efficiency of the motor at this load.

(Hint: $P_{rotational}$ = power developed at no load)