PHYS 211: Quiz 7

May 29, 2012

1. A motor is rotating at 40rpm and switched off at comes to a halt in 30s. The moment of inertia of the rotating mass is 10kg·m². Assuming constant deceleration, find the frictional torque slowing down the motor.

2. A meter scale is suspended by a string attached at the 30cm mark. The mass of the scale is 50g. You are given a 100g weight. Where will you suspend the weight for equilibrium of the scale? Show all the forces acting on the scale. Note: It is alright to assume that gravity acts at the center of mass (while this isn't true - this is indeed the net effect of gravity). For a uniform density object, the center of mass lies at it's geometric center.