Home Work #1

Problems 1-6 Text book Chapter 2: P2.11, AP2.2, E2.22, P2.13, E2.8, E2.13

Problem #7 Write the force equations for the linear translational systems shown below in figure 1.

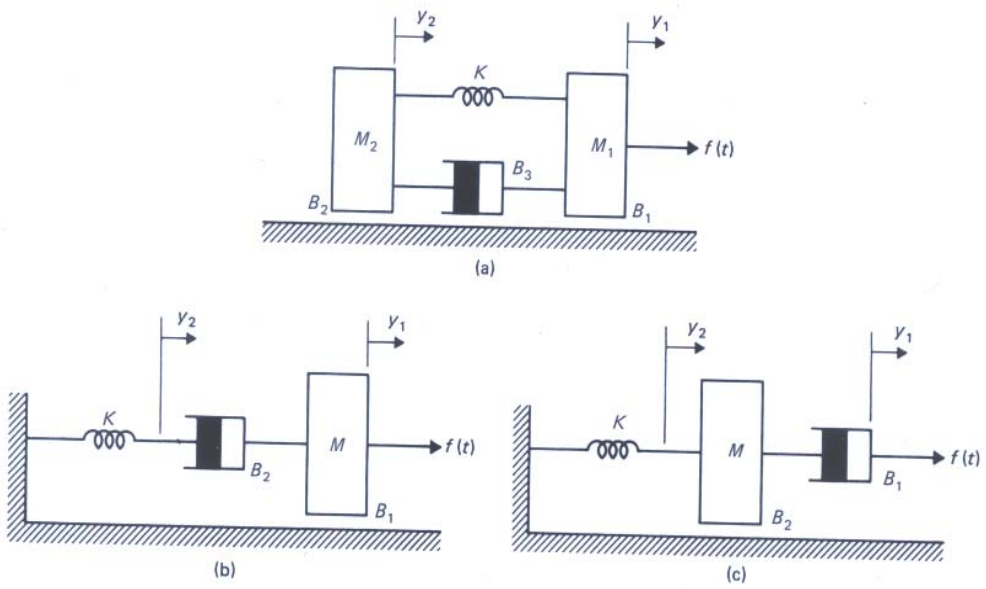

Figure. 1

Problem #8 Write the torque equations for gear-train system shown below in figure 2. The moments of inertia of the gears are lumped as J_1 ,J_2 , and J_3. $T_m\,(t)$ is the applied torque; N_1 ,N_2 ,N_3 , and N_4 are the number of gear teeth. Assume rigid shafts.

(a) Assume J_1 ,J_2 , and J_3 are negligible. Write the torque equations of the system. Find the total inertia the motor see.
(b) Repeat part (a) with the moments of inertia J_1 ,J_2 , and J_3 .