

Control Engineering 1

Course Code: CSE 3116

Quiz (03) – Mathematical Modeling // Mechanical

1. Consider the mechanical system shown in figure below
 - a. Find the transfer function $X(s)/P(s)$
 - b. Find the transfer function $Y(s)/P(s)$
 - c. Assuming that $m = 0.1 \text{ kg}$, $b_2 = 0.4 \text{ N.s/m}$, $k_1 = 6 \text{ N/m}$, $k_2 = 4 \text{ N/m}$, and $p(t)$ is a step force of magnitude 10 N , obtain the responses $x(t)$ and $y(t)$ using MATLAB
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