

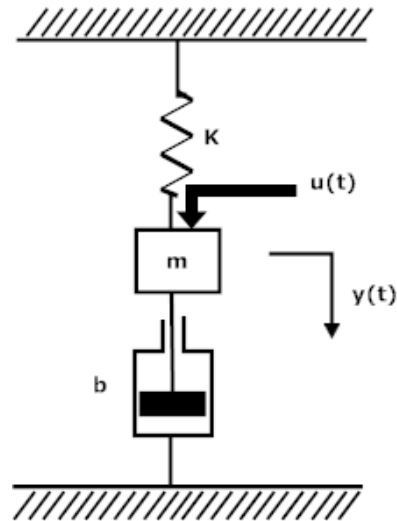
Automatic Control Systems

Sheet (03)

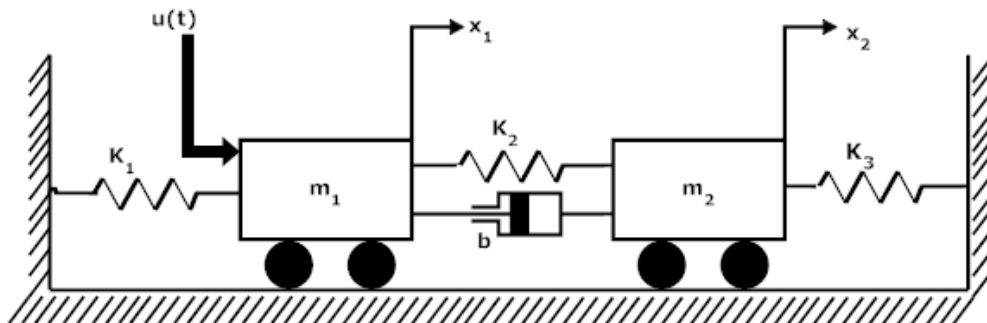
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1. Consider the mechanical system shown in fig. below. The external force $u(t)$ is the input to the system, and the displacement $y(t)$ of the mass is the output. Find the transfer function $Y(s)/U(s)$

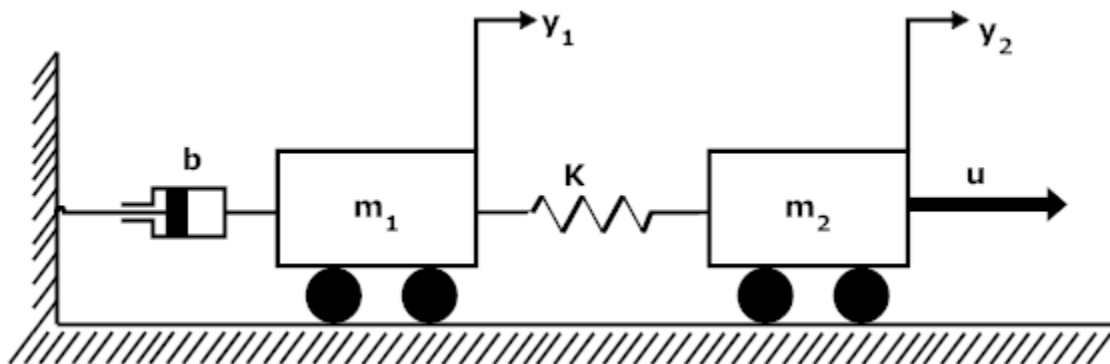


2. For the mechanical system shown in fig. below
- Obtain the transfer function $X_1(s)/U(s)$ and $X_2(s)/U(s)$
 - Draw the block diagram



3. For the mechanical system shown in fig. below

- Obtain the transfer function $Y_1(s)/U(s)$ and $Y_2(s)/U(s)$
- Draw the block diagram



4. For the mechanical system shown in fig. below

- Obtain the transfer function $Y_1(s)/U_1(s)$ and $Y_2(s)/U_1(s)$
- Draw the block diagram

