淡江大學 95 學年度碩士班招生考試試題

67-1

系別：機械與機電工程學系　　　科目：動　態　系　統

准帶項目請打「V」
簡單型計算機

本試題共　2　頁－1

You may make some assumptions if necessary.
Please write down your answer clearly.

(1) What is the similarity in dynamic systems? Please give an example.　(20%)

(2) Obtain the transfer functions $X_1(s)/U(s)$ of the mechanical system shown in Figure 1.　(20%)
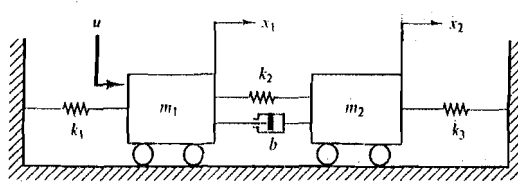

Figure 1.

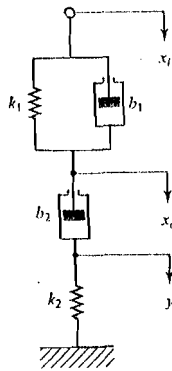(3) Obtain the transfer functions $X_0(s)/X_i(s)$ of the mechanical system shown in Figure 2.　(20%)

Figure 2.

(4) Please derive the transfer function for e_o as a function of e_i of the op-amp circuit (Fig. 3).　(20%)
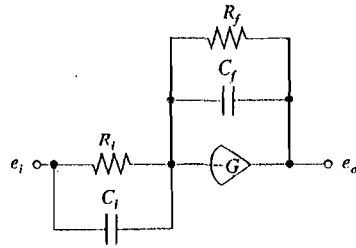

Figure 3.

(5) Obtain the dynamic equation of the open-loop DC motor speed control system (Fig. 4).　(Hint : You may assume the possible constant first.)　(20%)
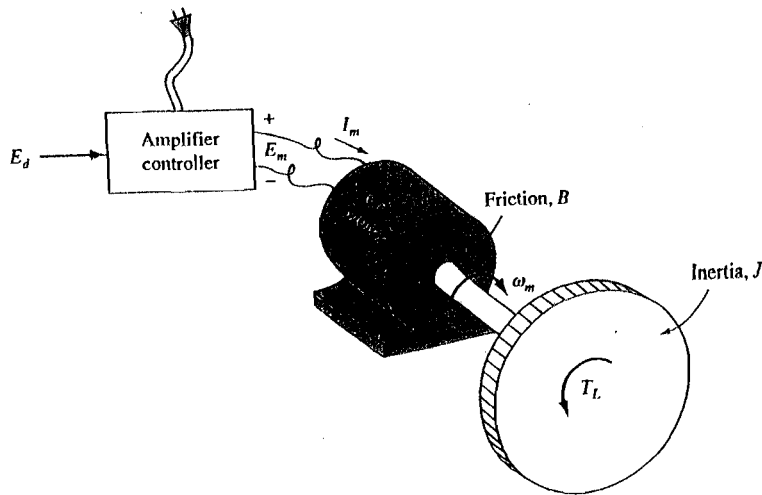

Figure 4.