

國立彰化師範大學九十六學年度碩士班招生考試試題

系所：機電工程學系

組別：甲組

科目：自動控制

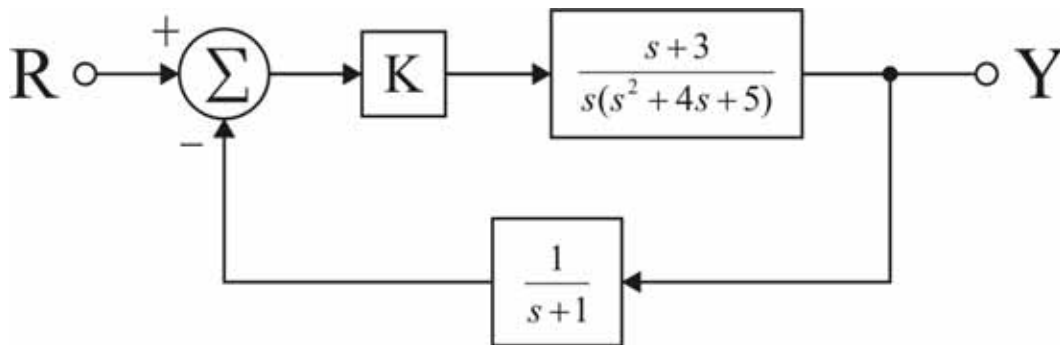
請在答案紙上作答

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1. Sketch the root locus for a system with an open-loop transfer function as follows. (20%)

$$\frac{1}{(s+1)(s^2+10s+34)}$$

2. Using the Routh's stability criterion, determine the value of K for which the system is stable. Write the differential equation relating the input R(s) with respect to the output Y(s). (20%)



3. Pick up an example. Showing the design of a controller can do the disturbance rejection job. (20%)

4. Sketch the Bode plot (20%)

$$G(s) = \frac{2000}{s(s+200)}$$

5. From the sketch of the asymptote of the Bode plot magnitude and phase for following open-loop transfer function. Write the transfer function. (20%)

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