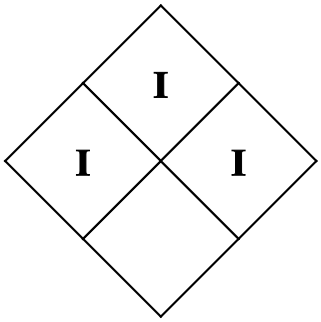
ERRATA for

FE Chemical Practice Exam 1

Errata posted 3-30-2015

Question 48:

The figure should be shown as follows:



THE CORRECT ANSWER IS: (C)

Previously posted errata continued on next page.

ERRATA for

FE Chemical Practice Exam 1

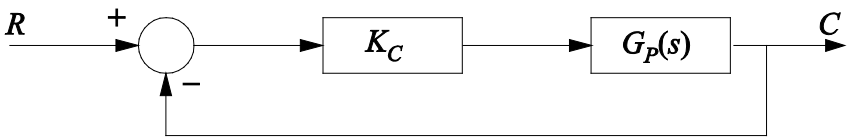
Errata posted 2-4-2014

Revisions are shown in red.

Question 45:

The equation should read as follows:

$$G_P(s) = \frac{0.1}{(s+1)(2s+1)}$$



Solution 45:

The characteristic equation is:

$$1 + \frac{(0.1\,K_C)}{(s+1)(2s+1)} = 0$$

which simplifies to:

$$0.1\,K_C + 2s^2 + 3s + 1 = 0$$

The Routh array is:

2	$1 + K_C$
3	0
$1 + K_C$	

The system is stable for all positive K_C. Note that this is a second-order process with a proportional controller. With any other stability analysis technique (root locus, phase margin, etc.), the system will be stable for all positive controller gains.

THE CORRECT ANSWER IS: (A)