

Q.no. 19 in GATE ECE 2015

Control Systems

Sai Laxman-EE18BTECH11049

February 19, 2020

Question

Negative Feedback in a closed-loop control system *DOES NOT*?

- a.) Reduce overall gain
- b.) Reduce bandwidth
- c.) Improve disturbance rejection
- d.) Reduce sensitivity to parameter variation

Solution

plot.jpg

Closed loop gain $Y(s)/X(s) = G(s)/1+G(s)H(s)$

Open loop gain = $G(s)$

Therefore reduced gain

Gain(db) Vs frequency

plot2.png

So bandwidth increases