

Easy

Assistant Engineer (Electrical), Class 2025

Building Department

For a unity feedback system, the open loop transfer function is $G(s) = K(s + 2)/s(s^2 + 7s + 12)$. What is the type of system?

A

One

B

Two

Correct

C

Three

D

Four

Correct Answer: B

Full Detailed Explanation

Concept & Reasoning: Finite poles such as roots of $s^2 + 7s + 12 = (s+3)(s+4)$ do not affect system type. Likewise the zero at -2 does not reduce the count unless it exactly cancels a pole at the origin, which it does not. Type determines steady-state error constants for step, ramp and parabolic inputs. How to Solve It: In the Exam, count uncanceled poles at the origin only. Important Exam Point: Do not count total denominator order. Related Revision Path: This question sits in the revision path Control Systems → Steady-State Error → System Type.

Open live question on website:

<https://sarkariresultout.com/pyq/question/gpsc-ae-electrical-q210-type-of-unity-feedback-system/>