THE UNIVERSITY OF TEXAS AT SAN ANTONIO

EE 3413

ANALYSIS AND DESIGN OF CONTROL SYSTEMS

QUIZ # 5

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Name:

Given a first order system, $H(s) = \dfrac{1}{Ts+1}$, with time-constant T.

1. What is the ramp response, i.e., what is $y_{ramp}(t)$ if the input to the system is a unit ramp function, i.e., $u(t) = t$? Your response should be in terms of T.

2. Obtain the tracking error $e(t) = y_{ramp}(t) - u(t)$? What's $e(\infty)$?