# MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY, JAMSHORO

###### DEPARTMENT OF BIOMEDICAL ENGINEERING

SECOND TERM THIRDYEAR (10-BIOMEDICAL BATCH)

SESSIONAL THEORY TEST 2012

#### BIOMEDICAL CONTROL SYSTEMS

Date**: 22-10-2012** Time Allowed**: 40 Minutes.** Max: Marks. **05.**

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| **Problem-1: Given a unity feedback system that has the forward transfer function;**    **Do the following:**   1. **Calculate the angle of G(s) at the point (3 + j0) by finding the algebraic sum of angles of the vectors drawn from the zeros and poles of G(s) to the given point.** 2. **Determine if the point specified in part (a) is on the root locus.** 3. **If the point specified in part (a) is on the root locus, then find the gain, K, using the lengths of the vectors.**   **Problem-2: Sketch the root locus and its asymptotes for a unity feedback system that has the forward transfer function;** |