Examination Feedback for EEE6022 Motion Control and Servo Drives
Autumn Semester 2013-14

Feedback for EEE6022 Session: 2013-2014

Feedback: Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

General Comments:

Question 1:

Some students have difficulties to relate linear motion to rotary motion, and hence were not able to answer Q1 (a). It should be noted, however, that given the expression for the radius of r, the remaining parts of the question could be answered easily.

Question 2:

Derivation of the H-bridge converter gain appears to be a problem. Please remember to use triangle relationship formed by the control signal and triangle carrier. In addition, many students failed to include the converter gain in the block diagram of the DC drive and in the current controller design.

Question 3:

Many students made mistake in proofing the torque expression the alpha-beta reference frame by ignoring the derivation of the flux vector with respect to angular displacement theta.

Question 4:

Many students found Q4 (c) were difficult. It is essential to understand the principle of v/f control and torque speed characteristic when the load torque is below rated.

Also pay attention to manipulation of trigonometric functions in Q4 (a), and numerical calculations with complex number in Q4 (b)