Examination Feedback for EEE201 – Signals and Systems
Autumn Semester 2008-09

Feedback for EEE201 Session:2008-2009

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:

The overall performance is poor. A number of students failed to answer some of the questions even though they are based on bookwork. Details are given below.

Question 1:

Very few students attempted this question even though part (a) and (b) are relatively straight forward and were based on bookwork. The magnitude spectrum of the signals can be obtained by using the Fourier Transform Pairs provided. Once these have been obtained, you can sketch and label them easily. I am surprise that so few students attempted this question. For part (c), the value of C can be found by ensuring that $2\pi/\omega_c << R_lC << 2\pi/\omega_m$ during discharge and $R_sC << 2\pi/\omega_c$ during charging.

Question 2:

Most of you were able to answer part (a) although some of you were unable to sketch the pole-zero plots. For part (b) only a few of you managed to work out the impulse responses $h_0(t)$ and $h_1(t)$ by using the Laplace Transform Pairs. A number of you have managed to answer part (c) correctly but some of you have tried to work out the unit step response although you were asked to find the impulse response.

Question 3:

Most of you have no problem with part (a) and (c). However quite a number of you struggled with the graphical convolution. Since the signal h(t) = 2, this should be accounted for when you perform the convolution.

Question 4:

As expected most of you did well in part (a). In part (b) I was disappointed that a number of you could not recognize that $Y(\omega) = H(\omega).W(\omega)$ where $H(\omega)$ is the transfer function of the RC circuit. It is easy to work out $H(\omega)$. Once you have worked out $Y(\omega)$, you can use the Fourier Transform Pairs to work out y(t). Some of you were confused with the time domain and frequency domain signal, giving expression such as H(t) = 1/(1+jw/wc) which is clearly wrong. Only a small number of you were able to recognize that the ripple voltage is defined by the two complex exponential terms.