

ECE503 Homework Assignment Number 8

Due by 8:50pm on Monday 02-Apr-2012

IMPORTANT: Please place your ECE mailbox number on all homework assignments. Your ECE mailbox number can be found on the course web page.

Make sure your reasoning and work are clear to receive full credit for each problem. Points will be deducted for a disorderly presentation of your solution. Please also refer to the course academic honesty policies regarding collaboration on homework assignments.

1. 3 points. Recall that an analog integrator has transfer function $H_a(s) = \frac{1}{s}$. Use the bilinear transform to find the digital transfer function $G(z)$ from the parent analog transfer function $H_a(s)$. Compare the frequency responses $H_a(\Omega)$ and $G(\omega)$ and the impulse responses $h_a(t)$ and $g[n]$.
2. 3 points. Mitra 9.8.
3. 3 points. Mitra 9.15.
4. 3 points. Mitra 9.16
5. 5 points. Mitra 9.18
6. 3 points. Mitra 9.28
7. 5 points. Mitra M9.11.