UNIVERSITY OF ILLINOIS
Department of Electrical and Computer Engineering
ECE 417 MULTIMEDIA SIGNAL PROCESSING

Lecture 6 Sample Problem Solutions

Problem 6.1

$$R_{uu}[n] = \frac{(-1)^n \sigma^2 (2b+1)}{L^2} \operatorname{dsinc}\left(\frac{2\pi n}{L}, 2b+1\right)$$

Problem 6.2

$$w[n] = \max\left(0, 1 - \frac{|n-K|}{K}\right)$$

Problem 6.3

$$v(t) = \sum_m (a_m + t b'_m) \cos\left(\alpha m t + \frac{\beta}{2} m t^2\right)$$