

ECE-486 Spring 2009, Feb 13 Quiz

Name : _____

A time-invariant linear system is to be designed to have impulse response given by

$$h(n) = \left\{ \dots, 0, 0, 0, 0, \underset{\uparrow}{2}, 1\frac{1}{2}, 1\frac{1}{4}, 1\frac{1}{8}, 1\frac{1}{16}, 1\frac{1}{32}, \dots \right\}$$

Find a minimum-order constant coefficient difference equation for a system which has the desired impulse response, and draw a block diagram for the direct-form II implementation of the system.