

## ECE-486 Spring 2008, Feb 22 Quiz

Name : \_\_\_\_\_

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The discrete time system below is used to process a stream of samples obtained by sampling a continuous-time signal at  $F_s = 48$  ksps.

$$y(n) = 0.9y(n-1) + x(n)$$

1. Find  $H(z)$ , and evaluate  $H(f)$ .
2. Evaluate the magnitude of the filter gain ( $|H()|$ ) associated with DC and with the continuous-time frequency  $F = 12$  kHz.