Problem ECE535-2 (Old exam problem worth 20 points)
A continuous-time signal $x_c(t)$ is sampled and reconstructed using the ideal $C/D$ and $D/C$ converters in the system shown below. The sample period is $T = \frac{1}{600}$ seconds and the input signal is known to be a cosine: $x_c(t) = \cos(800\pi t)$.

![Sampling/Reconstruction System](image)

Determine and sketch the reconstructed signal, $y_c(t)$. Be sure to label your sketch.