4.5 $\quad H(e^{j\omega T}) = \dfrac{1}{4} + \dfrac{1}{2} e^{-j\omega T} + \dfrac{1}{4} e^{-j2\omega T} = \dfrac{1}{2}(1 + \cos(\omega T)) e^{-j\omega T}$

The magnitude function is $|H(e^{j\omega T})| = \dfrac{1}{2}(1 + \cos(\omega T))$

The phase function is $\Phi(e^{j\omega T}) = -\omega T$

The group delay is $\tau(\omega T) = -\dfrac{\partial \Phi(e^{j\omega T})}{\partial \omega} = T$