

## Quiz 24

Let  $H_d(e^{j\omega})$  be a linear-phase filter with group delay  $\tau$  in the passband and  $W(e^{j\omega})$  a causal window sequence (rectangular, Bartlett, Hamming, Hanning, Hamming, Blackman, Kaiser) of length  $2\tau + 1$ . What can we say about

$$H(e^{j\omega}) = H_d(e^{j\omega}) \circledast W(e^{j\omega})?$$

**A:** Not much.

**B:**  $H(e^{j\omega})$  has linear phase.

**C:**  $H(e^{j\omega})$  has linear phase only if  $H_d(e^{j\omega})$  is causal.