12.26 (a) $\text{H}_2\text{O}$ has O-H bonds, so it can function as an H-bond donor.

Acetone has lone pairs on its O, so it can function as a H-bond acceptor.

\[
\text{H}_3\text{C} \quad \text{C} = \text{O} \quad \vdots \\
\text{H} \quad \text{H} \quad \text{O} \\
\text{H}_3\text{C}
\]

(b) Both $\text{H}_2\text{O}$ and $\text{CH}_3\text{OH}$ have O-H bonds and lone pairs on O atoms, so both can function as both H-bond donors and acceptors.

The substituents need not be drawn trans to each other to receive full credit.

\[
\text{H}_3\text{C} \quad \text{CH}_3 \quad \vdots \\
\text{O} \quad \text{H} \quad \text{O} \\
\text{H}_3\text{C}
\]