• For each of the following pairs of compounds, identify which is the stronger acid and give reasons for your choice.

Marks 3

$$\begin{array}{c|c} O & & & O \\ \hline O & & & \\ O & & & \\ \hline O & & \\ \hline (P) & & & \\ \hline \end{array}$$
 and
$$\begin{array}{c|c} O & & \\ \hline O & & \\ \hline O & \\ \hline (Q) & \\ \hline \end{array}$$

(Q) There is greater resonance stabilisation of the conjugate base (more canonical forms):

$$(\mathbf{R})$$
 and (\mathbf{S})

(R) There is greater resonance stabilisation of the conjugate base because it is aromatic.

 CF_3CO_2H and CH_3CO_2H (U)

(T) There is greater resonance stabilisation of the conjugate base due to the inductive electron withdrawal of the very electronegative F atoms.

