Q) **Find the change in internal energy for 1 g of water when it goes from its liquid to vapour phase. The measured latent heat of water is 2256 J/g. At atmospheric pressure, 1 g of water has a volume $1cm^3$ in liquid phase and $1671\ cm^3$ in vapour phase.**

Ans) $\Delta Q = \Delta U + \Delta W \qquad \Rightarrow 2256 = \Delta U + P_0 \Delta V = \Delta U + 10^5 \left(1670 \times 10^{-6}\right)$

$$\Rightarrow \Delta U = 2089 J$$