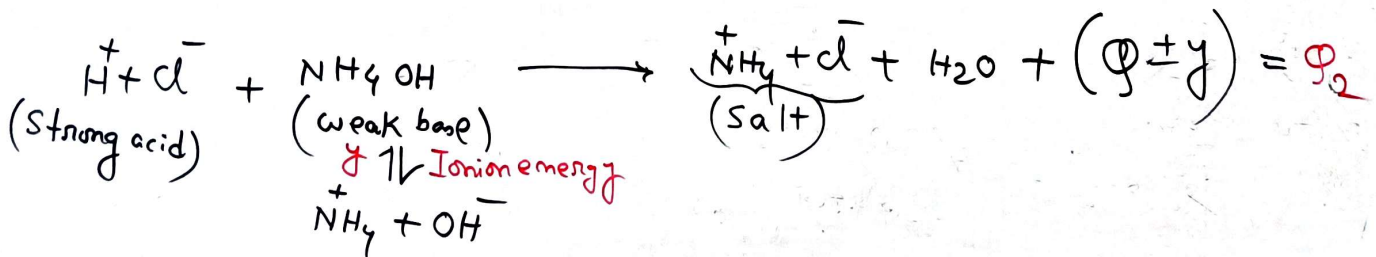
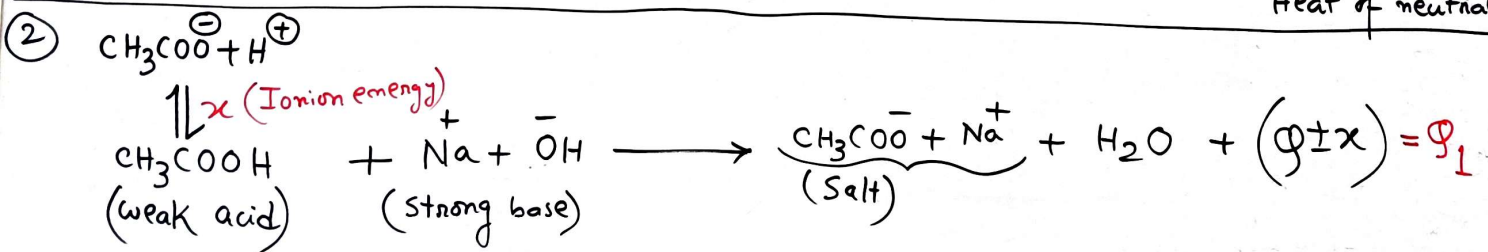
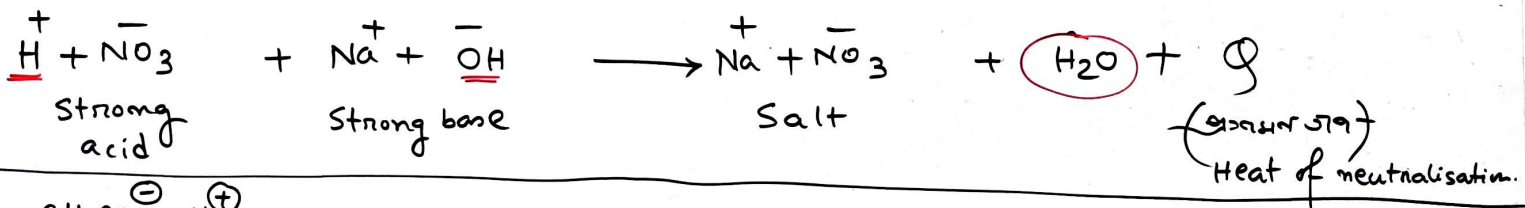
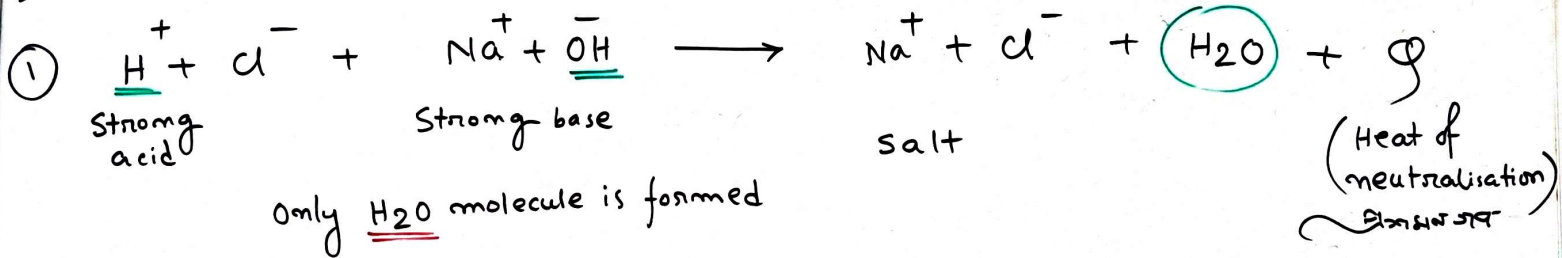


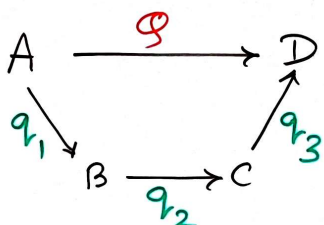
Q.1 Heat of neutralisations of any strong acid(s) & strong base(s) are always same - why?

Q.2 Heat of neutralisations of all strong acid(s) vs weak base(s) or all weak acid(s) vs strong acid(s) are not always same - why?



Hess's law :- The heat exchanged in a chemical process is always same whether the process takes place in single step or in multisteps (Initial & final state must be same for the process)

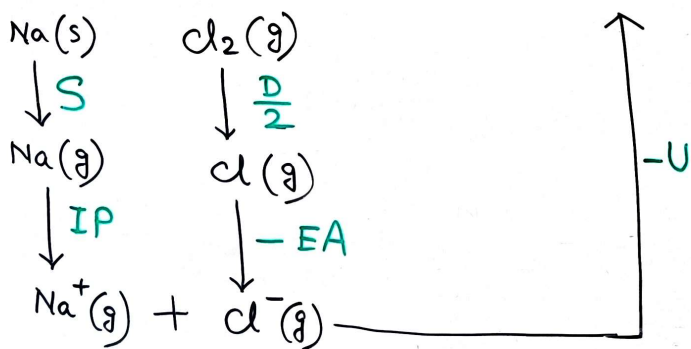
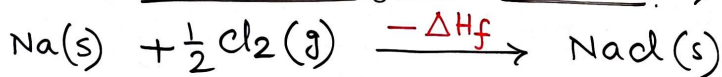
explanation :-



According to Hess's law -

$$Q = (q_1 + q_2 + q_3)$$

Born Haber cycle (वर्तमान चक्र) (For NaCl)



According to Hess's law  $\rightarrow$

$$-\Delta H_f = S + IP + \frac{D}{2} - EA - U$$

$$\Rightarrow U = \Delta H_f = S + IP + \frac{D}{2} - EA$$

\* Application  $\rightarrow$  Calculation of lattice energy.