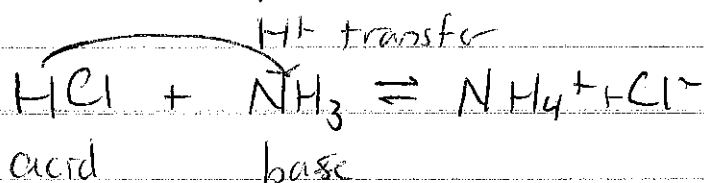


## 8.1 Theories of Acids/Bases

Brønsted-Lowry: theory of proton ( $H^+$ ) transfer

acid  $\rightarrow$  proton donor

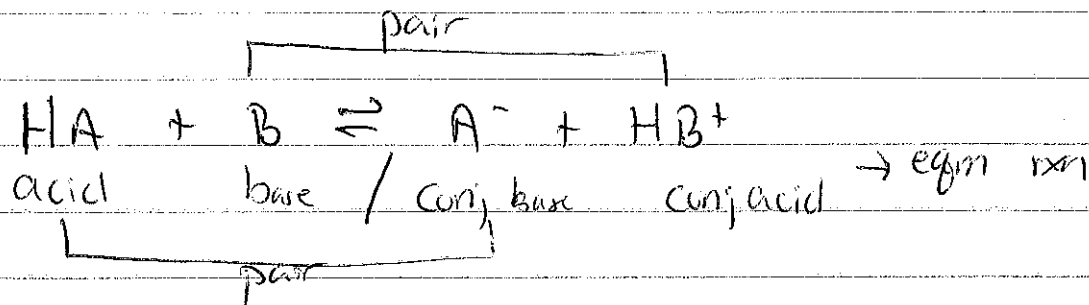
base  $\rightarrow$  proton acceptor



\* H: contains 1  $p^+$  & 1  $e^-$   
 $\therefore$  base 1  $e^-$  only 1  $p^+$  left

Conjugate pairs:

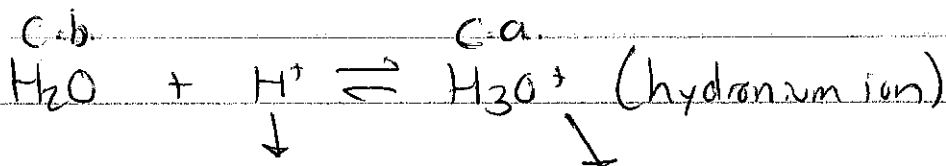
acids donate to base (does not happen if base not present)



HA reacts to form base  $A^-$

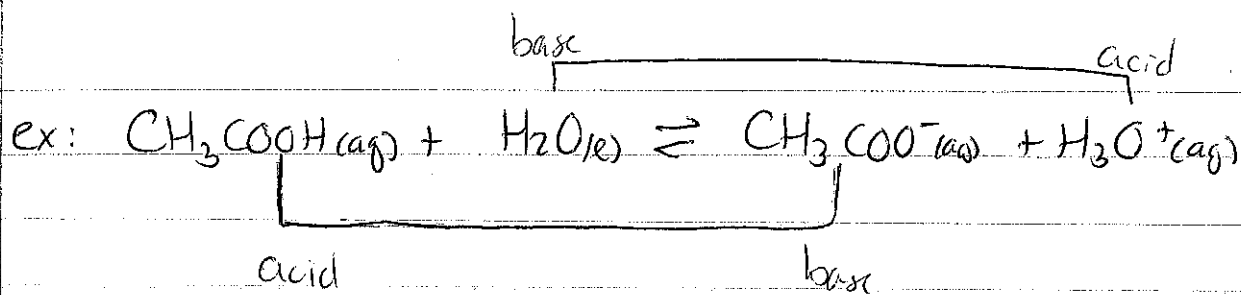
B reacts to form acid  $HB^+$

conjugate acid-base pairs: acids react to form bases & vice versa



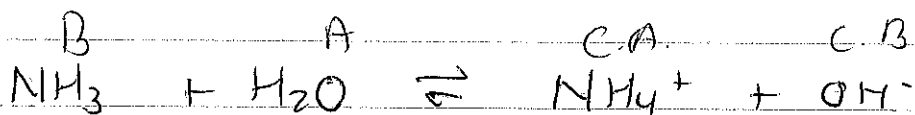
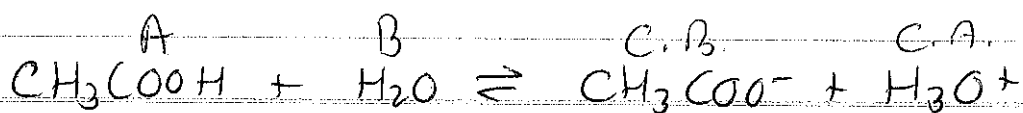
being released by  
acid in aq soln  
( $H^+$  becomes hydrated)

always form  $H^+$  ions in  
aq soln ( $H^+$  cap  $\Rightarrow$  shorthand)



★ acid always have 1 H<sup>+</sup> more than conj. base

Amphoteric / Amphiprotic : 1 compd can be acid or base  
 ★ all depends on reaction



Summary:

1. B/L acid → able to dissociate & release H<sup>+</sup>
2. B/L base → able to accept H<sup>+</sup> (have lone e<sup>-</sup> pair)

