

## Acids and Bases



- (a)  $H^+$ ions      (b)  $H_2^+$ ions      (c)  $H_3O^+$ ions      (d)  $H_4O^+$ ions
- 113.** Ammonium ion is  
 (a) Neither an acid nor base  
 (b) Both an acid and a base  
 (c) A conjugate acid  
 (d) A conjugate base
- 114.** Aqueous solution of  $AlCl_3$  is  
 (a) Acidic  
 (b) Basic  
 (c) Amphoteric  
 (d) None of these
- 115.** The species which acts as a Lewis acid but not a Bronsted acid is  
 (a)  $NH_2^-$       (b)  $O^{2-}$   
 (c)  $BF_3$       (d)  $OH^-$
- 116.** Among the following, the weakest base is  
 (a)  $H^-$       (b)  $CH_3^-$   
 (c)  $CH_3O^-$       (d)  $Cl^-$
- 117.** Which of the following is not lewis base  
 (a)  $NH_3$       (b)  $PH_3$   
 (c)  $(CH_3)_3N$       (d)  $HN_3$
- 118.**  $pK_a$  value of the strongest acid among the following is  
 (a) 3.0      (b) 4.5  
 (c) 1.0      (d) 2.0
- 119.** The most acidic compound in water is  
 (a)  $AlCl_3$   
 (b)  $BeCl_2$   
 (c)  $FeCl_3$   
 (d) None of these
- 120.**  $BF_3$  is used as a catalyst in several industrial processes due to its  
 (a) Strong reducing agent  
 (b) Weak reducing agent  
 (c) Strong Lewis acid nature  
 (d) Weak Lewis acid character

