



c. 166.6

d. 400

12. The dissociation degree of the reaction  $2AB_2(g) \rightleftharpoons 2AB(g) + B_2(g)$  is  $x$  and the value of  $x$  is less than 1. What will be the exact value of  $x$ -
- a.  $\left(\frac{K_p}{P}\right)$                       b.  $\left(\frac{2K_p}{P}\right)$   
 c.  $\left(\frac{2K_p}{P}\right)^{1/3}$                       d.  $\left(\frac{2K_p}{P}\right)^{1/2}$
13.  $2H_2(g) + O_2(g) \rightleftharpoons 2H_2O(l)$ ; What is the  $K_C$  equation of the reaction-
- a.  $K_C = \frac{[H_2O]^2}{[H_2]^2[O_2]}$   
 b.  $K_C = \frac{1}{[H_2]^2[O_2]}$   
 c.  $K_C = \frac{[H_2]^2[O_2]}{[H_2O]^2}$   
 d.  $K_C = [H_2]^2[O_2]$
14. In the mixer of 10mL 0.1M HCl and 5 mL 0.1M NaOH solution. Which ion will be present?
- a.  $OH^-$ ,  $Cl^-$ ,  $Na^+$   
 b.  $OH^-$ ,  $Cl^-$ ,  $H^+$   
 c.  $H^+$ ,  $Cl^-$ ,  $Na^+$   
 d.  $H^+$ ,  $Cl^-$ ,  $Na^+$ ,  $OH^-$
15. The factors affect on the reaction rate-
- Catalyst
  - Concentration of reactant
  - The surface area of reactant
- Which one is correct?
- a. i, ii                      b. i, iii  
 c. ii, iii                      d. i, ii, iii
16. Which substance should be added so that the reaction moves forward to complete the reaction by removing  $OH^-$  ?  
 $3MnO_4^{2-} + 2H_2O \rightleftharpoons 2MnO_4^- + MnO_2 + 4OH^-$
- a. HCl                      b. KOH  
 c.  $CO_2$                       d.  $SO_2$
17. The reaction  $CaCO_3(s) \rightleftharpoons CaO(s) + CO_2(g)$  is in a closed container at equilibrium state. If some amount of  $CaCO_3$  is added then what will be the concentration of  $CO_2$
- a. Increase                      b. Decrease  
 c. No change                      d. None will correct
18. If the pH value of a weak acid is 4 then the molar concentration (C) and dissociation degree ( $\alpha$ ) will be-
- a.  $C=10^{-3}$ ,  $\alpha=5\%$   
 b.  $C=10^{-2}$ ,  $\alpha=10\%$   
 c.  $C=10^{-3}$ ,  $\alpha=10\%$   
 d.  $C=10^{-2}$ ,  $\alpha=2.5\%$
19. A salt produces a colorless solution dissolving in water. Whose pH value is 9. What is the formula of that salt?
- a.  $NH_4NO_3$   
 b.  $CH_3COOK$   
 c.  $CH_3COONH_4$   
 d.  $CaCO_3$
20. If the  $Q_C = \frac{[NH_3]^2}{[N_2][H_2]^3}$  of the reaction  
 $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$ . To turn the reaction from right to left what should be done-
- a.  $Q_C = K_C$                       b.  $Q_C > K_C$   
 c.  $Q_C < K_C$                       d.  $Q_C = 0$