

## Chemical Equilibrium and hydrogen.

1. Which of the following is an irreversible reaction ?

- a. Neutralisation of strong acid Vs strong base.
- b. Neutralisation of weak acid Vs strong base
- c. Neutralisation of strong acid Vs weak base
- d. Neutralisation of weak acid Vs weak base.

2. For the reaction  $A + 2B \rightleftharpoons 3C$ , the equilibrium constant  $K_c$  is given by

- a.  $\frac{[A][B]^2}{[C]^3}$     b.   $\frac{[C]^3}{[A][B]^2}$     c.  $\frac{3[C]^3}{[A]^2[B]^2}$     d.  $\frac{[C]^3}{[A] + [B]^2}$

3. For the dissociation of HI, the equilibrium constant is found to be 0.25. What would be the equilibrium constant for the formation of HI ?

- a.  4    b. 3    c. 2    d. 1.

4. For an exothermic reaction,

- a.  $K$  is independent of temperature.
- b.  $K$  increases as temperature increases.
- c.  $K$  decreases as temperature increases.
- d.  $K$  varies with addition of reactants.

5. For the reaction  $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$ , the value of  $K_c$  depends upon.

a. Initial Conc. of reactants

b. Pressure

c. temperature

d. all of these

6. For an endothermic reaction @ equilibrium the formation of product can be increased by

a. Increasing temperature

b. Lowering temperature

c. Keeping temperature constant

d. decreasing the Conc. of reactant.

7. For the reaction,  $n\text{A} + m\text{B} \rightarrow \text{products}$ , in accordance to Law of Mass Action.

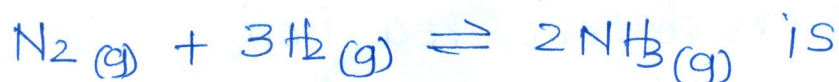
a.  $\text{Rate} = k[\text{A}]^n + [\text{B}]^m$

b.  $\text{Rate} = k[\text{A} + \text{B}]^{n+m}$

c.  $\text{Rate} = k + \{[\text{A}]^n[\text{B}]^m\}$

d.  $\text{Rate} = k[\text{A}]^n[\text{B}]^m$ .

8. The relation between  $K_p$  and  $K_c$  for



a.  $K_p = K_c$

b.  $K_p = K_c(RT)$

c.  $K_p = K_c(RT)^{-2}$

d.  $K_p = K_c(RT)^{-1}$

9. The equilibrium constant for the reaction



is 16. What will be the equilibrium constant

for the reaction  $2\text{SO}_2 + 2\text{NO}_2 \rightleftharpoons 2\text{SO}_3 + 2\text{NO}$

a. 16

b. 32

c. 256

d. 4

