

## ECAT Chemistry Online Test

Sr	Questions	Answers Choice
1	For which system does the equilibrium constant, $K_C$ has units of concentration	
2	Question Image	<p>A. Decrease in temperature favour more dissolution of the salt</p> <p><b>B. Increase in temperature favour more dissolution of the salt</b></p> <p>C. Lowering pressure favour more dissolution of the salt</p> <p>D. Increasing pressure favour more dissolution of the salt</p>
3	Question Image	<p><b>A. Shift reaction toward forward direction</b></p> <p>B. Shift reaction backward</p> <p>C. Lower the value of <math>K_{eq}</math></p> <p>D. No change in reaction</p>
4	Question Image	<p><b>A. Shift reaction toward forward direction</b></p> <p>B. Shift reaction backward</p> <p>C. Lower the value of <math>K_{eq}</math></p> <p>D. No change in reaction</p>
5	Le-chatlier's principle is applied on the reversible reaction in order to	<p>A. Determine the rate of reaction</p> <p>B. Predict the direction of reaction</p> <p>C. Determine the extent of reaction</p> <p><b>D. Find best conditions for favorable shifting the position of equilibrium</b></p>
6	The optimum conditions of temperature and pressure to get maximum $NH_3$ from $N_2$ and $H_2$ gases is	<p>A. <math>2000^\circ C</math> and 10 atmosphere</p> <p>B. <math>0^\circ C</math> and 1 atmosphere</p> <p><b>C. <math>400^\circ C</math> and 200-300 atmosphere</b></p> <p>D. <math>200^\circ C</math> and 100 atmosphere</p>
7	Question Image	<p>A. Forward</p> <p><b>B. Backward</b></p> <p>C. Already in equilibrium</p> <p>D. <math>K_{eq}</math> is never less</p>
8	Question Image	<p>A. 4 mole per <math>dm^3</math></p> <p>B. 2 mole per <math>dm^3</math></p> <p><b>C. 0.33 mole per <math>dm^3</math></b></p> <p>D. 0.67 mole per <math>dm^3</math></p>
9	Question Image	<p><b>A. Le-chatlier's principle</b></p> <p>B. Only adding catalyst</p> <p>C. Decreasing pressure</p> <p>D. Decreasing temperature</p>
10	Question Image	<p>A. Temperature is increased</p> <p>B. Pressure is increased</p> <p><b>C. HCl is added</b></p> <p>D. HCl is removed</p>
11	Question Image	<p>A. <math>K_C = K_P</math></p> <p>B. <math>K_P = K_C RT</math></p> <p><b>C. <math>K_P = K_C (RT)^{\Delta n}</math></b></p> <p>D. <math>K_P = K_C (RT)^{-1}</math></p>
12	Question Image	<p>A. The value of <math>K_{eq}</math> falls with rise in temperature</p> <p>B. The value of <math>K_{eq}</math> falls with increasing pressure</p> <p><b>C. Addition of <math>V_2O_5</math> catalyst increase the concentration of <math>SO_3</math></b></p> <p>D. The value of <math>K_{eq}</math> is equal to <math>K_C</math></p>
13	The value of $K_P$ is greater than $K_C$ for a gaseous reaction when	<p><b>A. Number of molecules of products is greater than the reactants</b></p> <p>B. Number of molecules of reactants is greater than those of products</p>

		<p>C. Number of molecules of reactants and products equal</p> <p>D. Catalyst is added</p>
14	Question Image	
15	Question Image	<p>A. Moles per <math>\text{dm}^3</math></p> <p>B. Partial pressures</p> <p>C. Number of moles</p> <p>D. Mole fractions</p>
16	Question Image	<p>A. Reaction occurs at STP</p> <p>B. Reaction is exothermic</p> <p>C. Reaction is endothermic</p> <p>D. Number of moles of production and reactant are same</p>
17	An excess of aqueous silver nitrate is added to aqueous barium chloride and precipitate is removed by filtration. What are the main ions in the filtrate	
18	Question Image	<p>A. Initial concentration of acetic acid</p> <p>B. Initial concentration of ethyl acetate</p> <p>C. Equilibrium concentration of acetic acid</p> <p>D. Equilibrium concentration of ethyl acetate</p>
19	Law of mass action states that rate of chemical reaction is directly proportional to the product of active masses of the reactants. The term active mass means	
20	Which one of the following has no units of its $K_c$ value	
21	Question Image	<p>A. Moles <math>\times \text{dm}^6</math></p> <p>B. No units</p> <p>C. Mole <math>\text{dm}^{-3}</math></p> <p>D. Mole <math>\times \text{dm}^{-3}</math></p>
22	Hydrogen gas and iodine vapours combine to form HI at $425^\circ\text{C}$ , the same composition of mixture is present if we start with decomposition of HI. It suggests	
23	The solubility product of AgCl is $2.0 \times 10^{-10} \text{ mol}^2 \text{ dm}^{-6}$ The maximum concentration of $\text{Ag}^+$ ions in the solution is	
24	The pH of $10^{-3} \text{ mole dm}^{-3}$ of an aqueous solution of $\text{H}_2\text{SO}_4$ is	
25	Question Image	<p>A. The value of <math>K_p</math> falls with a rise in temperature</p> <p>B. The value of <math>K_p</math> falls with increasing pressure</p> <p>C. Adding <math>\text{V}_2\text{O}_5</math> catalyst increase the equilibrium yield of sulphur trioxide</p> <p>D. The value of <math>K_p</math> is equal to <math>K_c</math></p>
26	For which system does the equilibrium constant, $K_c$ has units of	
27	Question Image	<p>A. HF is stable and does not decompose even at <math>2000^\circ\text{C}</math></p> <p>B. HF is stable and slowly decomposes at <math>2000^\circ\text{C}</math></p> <p>C. HF is strong acid</p> <p>D. HF produces equal moles of hydrogen and fluorine</p>
28	Chemical equilibrium involving reactants and products in more than one phase is called	

- A. Static
- B. Dynamic
- C. Homogeneous
- D. Heterogeneous

29	Reactions that proceed on both sides and never go to completion are called	A. Irreversible reactions B. Reversible reactions C. Opposing reactions D. Spontaneous reactions
30	The rate at which a substance reacts is directly proportional to its active mass and the rate of reaction is directly proportional to the product of the active masses of reacting substances, is called	A. Law of conservation of energy B. Le-Chateliers principle C. Law of mass action D. None of these