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Class & Session(1st Feb-2019)

Sig. of Candidate: _____

Sig. of Teacher. _____

Test Syllabus: Chapter-7+8(Complete) Test – 05

Date: 04-03-2019

CHEMISTRY HSSC-I

Time allowed: 15 minutes

SECTION-A (MARKS 17)

NOTE: Section-A is compulsory All parts of the section are to be answered on the separately provided OMR answer sheet should be completed in the first 15 minutes and handed over to the Center Superintendent. Deleting/overwriting is not allowed. Do not used lead pencil.

Q.1 Choose the correct answer i.e. A/B/C/D by filling the relevant bubble for each question on the OMR answer sheet according to the instructions given there. Each part carries one mark.

(i) For which of the following reactions, K_c has no units.



(ii) If $K_{sp} = [M^{+2}]^3 [X^{-3}]^2$ the chemical formula of compounds is



(iii) Which of the followings can effect equilibrium position and K_c

A. Temperature B. Pressure C. Concentration D. Catalyst

(iv) Small value of K_c suggest that

A. Reaction is almost complete B. Reactants are very reactive
C. Yield is low D. Products are stable

(v) Water cannot act as

A. Lewis acid B. Lewis base C. Bronsted acid D. Bronsted base

(vi) If dry citric acid crystals are placed on dry litmus paper they will

A. Turn yellow B. Turn green C. Turn red D. Remains unchanged

(vii) If pH of aqueous solution is 10 then concentration of OH^- will be

A. 4 B. 10^{+10} C. 10^{-4} D. 10^{+4}

(viii) Which one is strongest acid in aqueous solution

A. H_2O B. H_2CO_3 C. HCl D. CH_3COOH

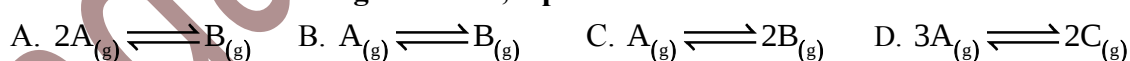
(ix) Addition of HCl in brine solution _____ the ionization of $NaCl$

A. Increase B. Decrease
C. May increase or decrease D. Does not affect

(x) If solubility product is greater than ionic product of salt then solution will be

A. Saturated B. Unsaturated C. Super saturated D. May be "A" or "B"

(xi) For which of the following reactions, $K_p > K_c$



(xii) If initial concentration of reactants is double then K_c of the reaction

A. Becomes double B. Becomes Half C. Does not change D. Increases four time

(xiii) An aqueous solution of sodium chloride is

A. Basic B. Acidic C. Neutral D. Weakly acidic

(xiv) pH of 0.05 M H_2SO_4 solution is

A. 0 B. 1 C. 2 D. 4

(xv) When crystals of copper sulphate are heated, the colour changes from blue to white. This is caused by

A. Loss of water only B. Loss of water and SO_2
C. Loss of CO_2 D. Reaction with CO_2 in the air

(xvi) Conjugate base of NH_4^+ in water is

A. NH_2^- B. NH_3 C. H^+ D. OH^-

(xvii) K_w at $40^\circ C$ is

A. 3.8×10^{-14} B. 1.0×10^{-14} C. 1.9×10^{-15} D. 0.11×10^{-14}

NOTE: Section 'B' AND 'C' comprise page 1 only and questions therein are to be answered on the separate answer book. Answer ALL parts from Section 'B' and Section 'C'. Write your answers neatly and legibly.

SECTION-B (MARKS 15)

Q.2 Attempt All the Questions

(5 × 3 = 15)

- (i) Explain relationship between K_p and K_c for a given reactions. $2\text{SO}_{2(g)} + \text{O}_2 \rightleftharpoons 2\text{SO}_{3(g)}$ **(03)**
- (ii) Explain curdling of milk with lemon juice. **(03)**
- (iii) Define common ion effect and explain it with example. **(03)**
- (iv) What is the pH of buffer if concentration of CH_3COOH is 0.1 M and CH_3COONa is 1.0 M pK_a for CH_3COOH is 4.76? **(03)**
- (v) Predict shift in equilibrium position for change in volume in
- $$4\text{NH}_3 + 5\text{O}_2 \rightleftharpoons 4\text{NO} + 6\text{H}_2\text{O} \quad \textbf{(03)}$$

SECTION-C (Marks 13)

Q.4 Attempt ALL Questions.

- A. What is Le-Chatelier's principle? Discuss its application for the synthesis of ammonia by Haber's process? **(05)**
- B. Elaborate the salt hydrolysis. **(08)**