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COMMON SECOND MID TERM TEST - NOVEMBER 2018

STANDARD - XI
CHEMISTRY

Reg. No.

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Marks: 35

Time: 1.15 Hrs.

Section - I

5 × 1 = 5

- Note:** i) Answer all the questions.
ii) Out of the four options given, choose the most appropriate answer and write the answer along with the option.
- The equilibrium constant for a reaction at room temperature is K_1 and at 700K is K_2 . If $K_1 > K_2$, then
 - Forward reaction is exothermic
 - Forward reaction is endothermic
 - The reaction does not attain equilibrium
 - Reverse reaction is exothermic
 - Consider the following statements:
 - Henry's law is applicable at moderate temperature and pressure only.
 - Ammonia and HCl obey Henry's law.
 - Only gases having high solubility obey Henry's law.
 Which of the above statements is/are not correct?
 - I only
 - II only
 - II, III
 - I, II
 - The isomer of ethanol is
 - Acetaldehyde
 - Dimethyl ether
 - Acetone
 - Methyl carbinol
 - Statement I** : Tertiary carbocations are formed more easily than primary carbocations.
Statement II : Hyperconjugation as well as inductive effect due to additional alkyl group stabilises tertiary carbocations.
 - Both statement I and II are true but statement II is not the correct explanation of statement I.
 - Both statement I and II are true and statement II is the correct explanation of statement I.
 - Statement I is true but statement II is false.
 - Both statements I and II are false.
 - If K_c for $2\text{SO}_{2(g)} + \text{O}_{2(g)} \rightleftharpoons 2\text{SO}_{3(g)}$ is $50 \text{ dm}^3/\text{mole}$ then K_c for $2\text{SO}_{3(g)} \rightleftharpoons 2\text{SO}_{2(g)} + \text{O}_{2(g)}$ is
 - $50 \text{ dm}^3/\text{mole}$
 - $-50 \text{ dm}^3/\text{mole}$
 - $0.02 \text{ dm}^3/\text{mole}$
 - $0.02 \text{ mole}/\text{dm}^3$

XI - Chemistry

Section - II

Answer any four questions. Question No. 11 is compulsory: $4 \times 2 = 8$

- 6) State law of mass action.
- 7) What are isotonic solutions?
- 8) Write the geometrical isomers of Acetaldoxime.
- 9) What is called Lassaigne's extract?
- 10) How is 4-hydroxy phenol converted into p-Benzoquinone?
- 11) The mole fraction of the solvent is 0.2. Calculate the relative lowering of vapour pressure of this solution.

So, the relative lowering of VP is 0.2

Section - III

Answer any four questions. Question No. 16 is compulsory: $4 \times 3 = 12$

- 12) Define reaction quotient. Using reaction quotient, how will you predict the direction of a reaction?
- 13) One mole of H_2 and one mole of I_2 are mixed and allowed to attain equilibrium. If the equilibrium mixture contains 0.4 moles of HI, calculate the equilibrium constant.
- 14) Why is osmotic pressure more significant over other colligative properties?
- 15) Write the structural formula of the following compounds.
(i) Pent-2-ene (ii) 2-Methoxy propane (iii) 2-Cyclopentyl propanal
- 16) Write the increasing order of acidic nature of chloroacetic acid, dichloroacetic acid, acetic acid and trichloroacetic acid. Give reason.
- 17) What are elimination reactions? Give suitable example.

Section - IV

Answer all the questions:

$2 \times 5 = 10$

- 18) Derive the relationship between K_p and K_c . (5)
- (OR)
- 19) Write the advantages of using standard solutions. (2)
- 20) Write the advantages of using standard solutions. (3)
- 19) i) Give two examples for ideal solutions. (2)
- ii) What is called Metamerism? Write the different metamers in $C_5H_{10}O$. (3)
- (OR)
- iii) What is called No-bond resonance? Explain with a suitable example. (3)
- iv) Write free radical addition reaction. (2)