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Tsi11C **Tenkasi District Common Examinations**
First Revision Test - January 2023

30.01.2023 **Standard 11**

Time Allowed: 3.00 Hours **CHEMISTRY** Maximum Marks: 70

PART - I

I. Choose the correct answer for all the questions: **15×1=15**

1) Which one of the following is used as a standard for atomic mass?
a) $_6C^{12}$ b) $_7C^{12}$ c) $_6C^{13}$ d) $_6C^{14}$

2) How many electrons in an atom with atomic number 30 can have $(n+\ell) = 4$?
a) 5 b) 6 c) 7 d) 8

3) In the third period of the first ionisation potential is of the order.
a) Na > Al > Mg > Si > P b) Na < Al < Mg < Si < P
c) Mg > Na > Si > P > Al d) Mg < Na < Si < P < Al

4) Which one is a Syngas?
a) CO_2+H_2 b) CO_3+H_2 c) $CO+H_2$ d) $C+H_2$

5) Nitrogen reacts with CaC_2 to give
a) $CaC(N)_2$ b) CaN_2 c) $Ca(CN)_2$ d) Ca_3N_2

6) **Assertion** : Critical temperature of CO_2 is 304K it can be liquefied above 304K.
Reason : For a given mass of gas, volume is to directly proportional to pressure at constant temperature.
a) Both assertion and reason are true and reason is the correct explanation of assertion.
b) Both assertion and reason are true but reason is not the correct explanation of assertion.
c) Assertion is true but Reason is false.
d) Both assertion and reason are false.

7) The intensive property among the quantities below is
a) Enthalpy b) Mass c) Mass/Volume d) Volume

8) What is the value Δng and k_p, k_c relation for the equilibrium $2NH_{3(g)} \rightleftharpoons N_{2(g)}+3H_{2(g)}$?
a) −, $k_p > k_c$ b) +, $k_p < k_c$ c) −, $k_p < k_c$ d) +, $k_p > k_c$

9) Which one of the following aqueous solution having high boiling point?
a) 0.1M KNO_3 b) 0.1M Na_3PO_4 c) 0.1M $BaCl_2$ d) 0.1M K_2SO_4

10) Which pair have same bond order?
a) C_2 and O_2 b) N_2 and O_2 c) O_2 and O_2^- d) N_2 and N_2^+

11) Which method is used to separate Nitro benzene and benzene mixture?
a) Steam distillation b) Crystallization
c) Fractional crystallization d) None of the above

12) Decreasing order of +I effect
a) $-CH_2CH_3 > -CH_3 > -C(CH_3)_3 > -CH(CH_3)_2$
b) $-CH_3 > -CH_2CH_3 > -CH(CH_3)_2 > -C(CH_3)_3$
c) $-C(CH_3)_3 > -CH(CH_3)_2 > -CH_2CH_3 > -CH_3$
d) $-CH(CH_3)_2 > -CH_2CH_3 > -C(CH_3)_3 > -CH_3$

13) Which compound reacts with HBr followed by elimination reaction do not give propene?
a) ∇ b) $CH_3-CH_2-CH_2OH$
c) $H_2C=C=O$ d) $CH_3-CH_2-CH_2Br$

14) Haloalkanes react with excess NH_3 to give
a) Secondary amine b) Tertiary amine
c) Quarternary ammonium salt d) All the above

15) _____ causes kidney damage.
a) Cadmium, Mercury b) Lead, Cadmium
c) Freon, Fluoride d) Copper, Cadmium

Kindly send me your questions and answerkeys to us : Padasalai.Net@gmail.com

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PART - II

II. Answer ANY SIX of the following. Question No. 24 is compulsory: 6×2=12

16) Define gram equivalent mass.
17) State Hund's rule of multiplicity.
18) Write the difference between diffusion and effusion.
19) Classify the following into state function and path function work, Gibbs free energy, volume, heat.
20) What are homologous series?
21) What is functional group isomerism. Give an example.
22) Define Gibb's free energy.
23) State Le-chatlier's principle.
24) State Gay-Lussac's law.

PART - III

III. Answer ANY SIX of the following. Question No. 33 is compulsory: 6×3=18

25) Calculate the oxidation number for the underlined element in that compound.
(i) $\underline{S}O_2$ (ii) $\underline{C}H_2F_2$ (iii) $\underline{O}F_2$
26) State Aufbau Principle.
27) State Dalton law of partial pressure.
28) Write any three characteristics of organic compounds.
29) Write short note on diagonal relationship.
30) How washing soda is prepared?
31) Explain paper chromatography.
32) Write the uses of plaster of paris.
33) Explain the mechanism of E_2 reaction.

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PART - IV

IV. Answer ALL the questions: 5×5=25

34) a) i) State heisenberg's uncertainty principle.
ii) Calculate the emprical and molecular formula. A compound on analysis gave C = 54.55%, H = 9.09% and O = 36.36% (molecular mass of the compound 88)
(OR)
b) i) Define atomic radius and explain the variation in periods and groups.
ii) Write short note on Ionic hydrides.

35) a) Explain Quantum Numbers.
(OR)
b) Derive the relation between ΔH and ΔU.

36) a) Derive the Von't Hoff equation.
(OR)
b) i) Explain VSEPR theory.
ii) Depression of freezing point is the colligative property. Why?

37) a) i) Give the principle involved in the estimation of Nitrogen in an organic compound by Kjeldhal's method.
ii) Write Wurtz - fitting reaction.
(OR)
b) Explain the structural elucidation of benzene.

38) a) i) An organic compound (A) with molecular formula C_2H_5Cl reacts with KOH gives compound (B) and with alcoholic KOH gives compound (C). Identify (A), (B) and (C).
ii) How is DDT prepared?
(OR)
b) i) $C_{(S)} + O_2 \rightarrow CO_2$. Calculate the standard entropy change for the above reaction using the following data. Standard entropy values of CO_2, $C_{(S)}$, O_2 is 213.6, 5.740 and 205 JK^{-1}.
ii) What are the various methods to prevent the environmental pollution?

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