



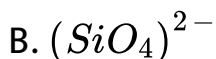
## CHEMISTRY

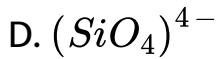
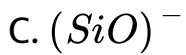
# BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

## SAMPLE PAPER - 7 (SOLVED)

### Part I

1. The basic structural unit of silicates is





**Answer:**



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2. .... is a pungent smelling gas.

A. Ammonia

B. Nitric acid

C. Fluorite

D. Sodium chloride

**Answer:**



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3. How many geometrical isomers are possible for  $[\text{Pt}(\text{Py})(\text{NH}_3)(\text{Br})(\text{Cl})]$  ?

A. 3

B. 4

C. 0

D. 15

**Answer:**



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4. The correct difference between first and second order reactions is that

A. A first order reaction can be catalysed, a second order reaction cannot be catalysed.

B. The half life of a first order reaction does not depend on  $[A_0]$ , the half life of a second order reaction does depend on  $[A_0]$ .

C. The rate of a first order reaction does not depend on reactant concentrations, the rate of a second order reaction does depend on reactant concentrations.

D. The rate of a first order reaction does depend on reactant concentrations, the rate of a second order reaction does not depend on reactant concentrations.

**Answer:**



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5. Concentration of the  $Ag^+$  ions in a saturated solution of  $Ag_2C_2O_4$  is  $2.24 \times 10^{-4} mol L^{-1}$  solubility product of  $Ag_2C_2O_4$  is

A.  $2.42 \times 10^{-8} mol^3 L^{-3}$

B.  $2.66 \times 10^{-12} \text{mol}^3 \text{L}^{-3}$

C.  $4.5 \times 10^{-11} \text{mol}^3 \text{L}^{-3}$

D.  $5.619 \times 10^{-12} \text{mol}^3 \text{L}^{-3}$

**Answer:**

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6. Assertion(A): Copper Sulphate can be stored in a Zinc vessel.

Reason (R): Zinc is less reactive than Copper.

A. Both A and R are correct

B. Both A and R are wrong

C. A is correct but R is wrong

D. A is wrong but R is correct

**Answer:**

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7. Fog is colloidal solution of

A. solid gas

B. gas in gas

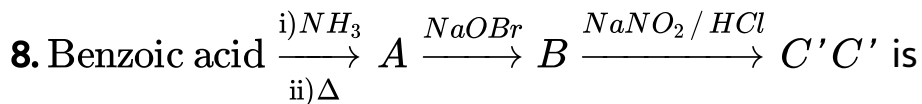
C. liquid in gas

D. gas in liquid

**Answer:**



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- A. anilinium chloride
- B. O - nitro aniline
- C. benzene diazonium chloride
- D. m - nitro benzoic acid

**Answer:**



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9. Which one of the following is the IUPAC name of  $CH_3 - CH_2 - CH_2CN$ ?

A. Propiono nitrile

B. Penta nitrile

C. Isobutyro nitrile

D. Butane nitrile

**Answer:**



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10. The correct corresponding order of names of four aldoses with configuration given below Respectively is

A. L-Erythrose, L-Threose, L-Erythrose, D-Threose

B. D-Threose, D-Erythrose, L-Threose, L-Erythrose

C. L-Erythrose, L-Threose, D-Erythrose, D-Threose

D. D-Erythrose, D-Threose, L-Erythrose, L-Threose

**Answer:**



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**11. Tranquilisers are substances used for the treatment of**

..... .

A. cancer

B. AIDS

C. mental diseases

D. blood infection

**Answer:**

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**Part ii**

1. What are leaching process?

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2. What happens when  $PCl_5$  is heated ?

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3. Write the biological importance of coordination compounds.

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4. Mention the factors affecting the reaction rate.

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5. What is meant by standard reduction potential? What is its application?

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6. Give two important characteristics of physisorption.

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7. Draw the major product formed when 1-ethoxyprop-1-ene is heated with one equivalent of HI

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8. Define Tautomerism. Give example. Why tertiary nitro alkanes do not exhibit tautomerism?

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9. Why soaps do not work in hard water?

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## Part Iii

1. Write the application of Iron (Fe).

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2. Give a reason to support that sulphuric acid is a dehydrating agent.

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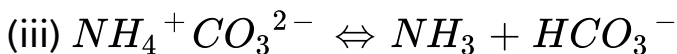
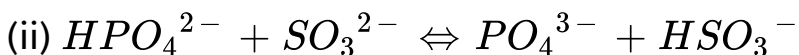
3. Give evidence that  $[Co(NH_3)_5Cl]SO_4$  and  $[Co(NH_3)_5SO_4]Cl$  are ionisation isomers.

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4. For a reaction,  $X + Y \rightarrow \text{Product}$ , quadrupling  $[x]$ , increases the rate by a factor of 8. Quadrupling both  $[x]$  and  $[y]$ , increases the rate by a factor of 16. Find the order of the reaction with respect to  $x$  and  $y$ . What is the overall order of the reaction?

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5. Identify the conjugate acid base pair for the following reaction in aqueous solution



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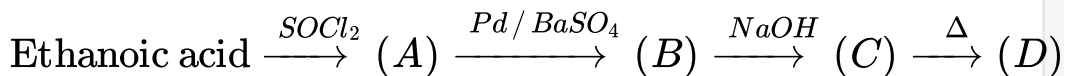
6. In the following fields, how adsorption is applied?

(i) Medicine (ii) Metallurgy (iii) Mordant & Dyes (iv) indicators

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7. Identify A, B, C and D



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8. Draw the structural formula and write the IUPAC name of

(i) N, N-dimethyl aniline (ii) Benzyl amine (iii) N-methyl  
benzylamine

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9. Differentiate soaps and detergents .

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1. (i) Explain the role of carbon monoxide in the purification of nickel?

(ii) Describe the structure of diborane.

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2. (i) What type of hybridisation occur in 1.  $BrF_5$  2.  $BrF_3$

(ii) Most of the transition metals act as catalyst. Justify this statement.

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3. (i) Why tetrahedral complexes do not exhibit geometrical isomerism.

(ii) Explain about the importance and application of coordination complexes.

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4. Explain AAAA and ABABA and ABCABC type of three dimensional packing with the help of neat diagram.

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5. (i) The rate constant for a first order reaction is  $1.54 \times 10^{-3} \text{ s}^{-1}$ .

Calculate its half life time.

(ii) Explain about protective action of colloid.

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6. (i) What is buffer solution? Give an example for an acidic buffer and a basic buffer.

(ii) The value of  $K_{sp}$  of two sparingly soluble salts  $Ni(OH)_2$  and  $AgCN$  are  $2.0 \times 10^{-15}$  and  $6 \times 10^{-17}$  respectively. Which salt is more soluble? Explain.

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7. Describe about lead storage battery construction and its uses.



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8. (i) What happens when m-cresol is treated with acidic solution of sodium dichromate?

(ii) Formic acid is more stronger than acetic acid. Justify this statement.



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9. (i) An aromatic compound 'A' on treatment with aqueous ammonia and heating forms compound 'B' which on heating with  $Br_2$  and KOH forms a compound 'C' of molecular formula  $C_6H_7N$ . Write the structures and

IUPAC names of compound A, B and C.

(ii) Lactose act as reducing sugar. Justify this statement.

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10. (i) Explain the mechanism of enzyme action?

(ii) Which chemical is responsible for the antiseptic properties of dettol?

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