



CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

SAMPLE PAPER - 9 (SOLVED)

Part 1

1. Blistered copper is.....

- A. 98% pure copper
- B. 96% pure copper
- C. 97% pure copper
- D. 88% pure copper

Answer: A



Watch Video Solution

2. Which of the following statements is not correct ?

- A. Beryl is a cyclic silicate
- B. Mg_2SiO_4 is an orthosilicate
- C. SiO_4^{2-} is the basic structural unit of silicates
- D. Feldspar is not aluminosilicate

Answer: D



[View Text Solution](#)

3. Consider the following statements.

- (i) phosphine is the most important hydride of phosphorous
- (ii) phosphine is a poisonous gas with rotten egg smell.
- (iii) phosphine is a powerful reducing agent

Which of the above statement(s) is/are correct ?

A. (i) and (ii)

B. (ii) and (iii)

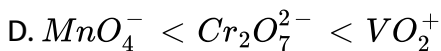
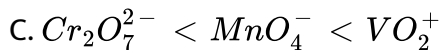
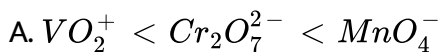
C. (i) and (iii)

D. (ii) only

Answer: C

 [View Text Solution](#)

4. the correct order of increasing oxidizing power in the series .



Answer: A

 [Watch Video Solution](#)

5. The geometry possible in $[FeF_6]^{4-}$ and $[CoF_6]^{4-}$ is

A. Trigonal bipyramidal

B. Square planar

C. Octahedral

D. Tetrahedral

Answer: C



Watch Video Solution

6. The number of carbon atoms per unit cell of diamond is

A. 8

B. 6

C. 1

Answer: A


7. In a homogeneous reaction

 $A \rightarrow B + C + D$, the initial pressure was P_0 and after time t it was P .Expression for rate constant in terms of P_0 , P and t will be

$$\text{A. } k = \left(\frac{2.303}{t} \right) \log \left(\frac{2P_0}{3P_0 - P} \right)$$

$$\text{B. } k = \left(\frac{2.303}{t} \right) \log \left(\frac{2P_0}{P_0 - P} \right)$$

$$\text{C. } k = \left(\frac{2.303}{t} \right) \log \left(\frac{3P_0 - P}{2P_0} \right)$$

$$\text{D. } k = \left(\frac{2.303}{t} \right) \log \left(\frac{2P_0}{3P_0 - 2P} \right)$$

Answer: A


8. The solubility of an aqueous solution of $Mg(OH)_2$ be x then its K_{sp} is

.....

A. $4x^3$

B. $108x^5$

C. $27x^4$

D. $9x$

Answer: A



[Watch Video Solution](#)

9. During electrolysis of molten sodium chloride, the time required to produce 0.1 mol of chlorine gas using a current of 3A is

A. 55 minutes

B. 107.2 minutes

C. 220 minutes

D. 330 minutes

Answer: B



Watch Video Solution

10. The coagulation values in millimoles per litre of the electrolytes used for the coagulation of As_2S_3 are given below

(I) $(NaCl) = 52$

(II) $(BaCl_2) = 0.69$

(III) $(MgSO_4) = 0.22$

The correct order of their coagulating power is

A. $III > II > I$

B. $I > II > III$

C. $I > III > II$

D. $II > III > I$

Answer: A



Watch Video Solution

11. Assertion : Coagulation power of Al^{3+} is more than Na^{+} .

Reason : greater the valency of the flocculating ion added, greater is its power to cause precipitation

- A. if both assertion and reason are true and reason is the correct explanation of assertion. (Hardy-Sechulze rule)
- B. if 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.

Answer: A



Watch Video Solution

	Column - I	Column - II
12. A.	Methanol	1. Printing Ink and Stamp pad ink
B.	Ethanol	2. Industrial solvent
C.	Glycol	3. Beverage
D.	Glycerol	4. Anti-freezer in automobile radiator

A. $\begin{matrix} A & B & C & D \\ 2 & 3 & 4 & 1 \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ 1 & 2 & 3 & 4 \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ 4 & 1 & 2 & 3 \end{matrix}$

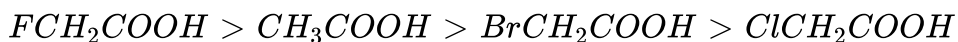
D. $\begin{matrix} A & B & C & D \\ 3 & 4 & 1 & 2 \end{matrix}$

Answer: A

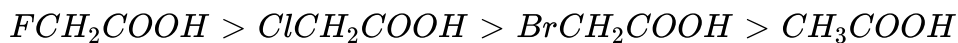
 [Watch Video Solution](#)

13. Which of the following represents the correct order of acidity in the given compounds

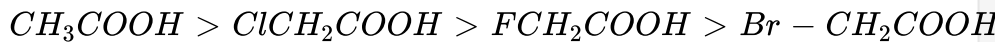
A.



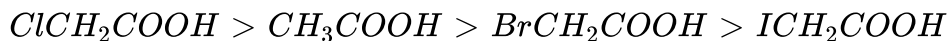
B.



C.



D.



Answer: B



[View Text Solution](#)

14. 1-nitrobutane and 2-methyl-1-nitropropane are belong to

.....

A. position isomerism

B. functional isomerism

C. Tautomerism

D. chain isomerism

Answer: D



Watch Video Solution

15. Haemoglobin is.....

A. an enzyme

B. a globular protein

C. a vitamin

D. carbohydrate

Answer: B



Watch Video Solution

16. An example of antifertility drug is

A. novestrol

B. seldane

C. salvarsan

D. Chloramphenicol

Answer: A

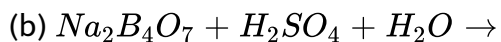
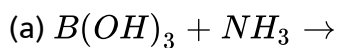
 [Watch Video Solution](#)

Part II

1. Name the method used for the refining of (i) Nickel (ii) Zirconium

 [Watch Video Solution](#)

2. Complete the following reactions :





Watch Video Solution

3. $KMnO_4$ does not act as oxidising agent in the presence of HCl. Why ?



Watch Video Solution

4. A reaction is first order in A and second order in B.

(i) Write the differential rate equation.

(ii) How is the rate affected on increasing the concentration of B three times ?

(iii) How is the rate affected when the concentrations of both A and B are doubled ?



Watch Video Solution

5. Calculate the pH of 0.04 M HNO_3 Solution.



Watch Video Solution

6. What is Helmholtz double layer?

 [Watch Video Solution](#)

7. Why HCOOH does not give Hell-Volhard Zelinsky reaction but CH_3COOH does ?

 [Watch Video Solution](#)

8. What happens when

Oxidation of acetoneoxime with trifluoroperoxy acetic acid.

 [Watch Video Solution](#)

9. What are food preservatives ?

 [Watch Video Solution](#)

1. Explain the principle of electrolytic refining with an example.

 [Watch Video Solution](#)

2. How will you prepare phosphine and explain the purification of phosphine ?

 [Watch Video Solution](#)

3. Justify the position of lanthanides and actinides in the periodic table .

 [Watch Video Solution](#)

4. Distinguish between isotropy and anisotropy ?

 [Watch Video Solution](#)

5. What are the merits and limitations of the intermediate compound theory ?

 [Watch Video Solution](#)

6. Write a note on sacrificial protection .

 [Watch Video Solution](#)

7. 1 mole of HI is allowed to react with t-butyl methylether. Identify the product and write down the mechanism of the reactions.

 [Watch Video Solution](#)

8. How will you prove the presence of aldehyde group in glucose ?

 [Watch Video Solution](#)

9. Explain about anaesthetics with their types.

 [View Text Solution](#)

Part Iv

1. (i) CO is more stable at higher temperature. Why ?

(ii) How will you prepare potash alum ?

 [View Text Solution](#)

2. (i) Give the balanced equation for the reaction between chlorine with cold NaOH.

(ii) Nitrogen exists as diatomic molecule and Phosphorus as P_4 . Why ?

 [Watch Video Solution](#)

3. (i) Discuss the ortho and pyro silicates.

(ii) Compare lanthanides and actinides.

 [View Text Solution](#)

4. (i) Ni^{2+} is identified using alcoholic solution of dimethyl glyoxime.

Write the structural formula for the rosy red precipitate of a complex formed in the reaction.

Cu^+ , Zn^{2+} , Sc^{3+} , Ti^{4+} are colourless. Prove this statement.

 [View Text Solution](#)

5. (i) What is meant by the term "coordination number"? What is the coordination number of atoms in a bcc structure ?

(ii) Rate constant k of a reaction varies with temperature T according to the following Arrhenius equation

$$\log K = \log A - \frac{E_a}{2.303R} \left(\frac{1}{T} \right)$$

Where E_a is the activation energy. When a graph is plotted for $\log k$ Vs

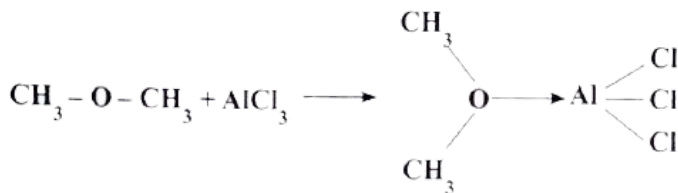
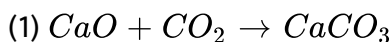
$\frac{1}{T}$ a straight line with a slope of -4000 K is obtained. Calculate the activation energy.

 [View Text Solution](#)

6. (i) Explain about the hydrolysis of salt of strong base and weak acid.

Derive the value of K_h for that reaction.

(ii) Identify the Lewis acid and the Lewis base in the following reactions.



 [View Text Solution](#)

7. (i) What are lyophilic and lyophobic sols ? Give one example of each type. Why are hydrophobic sols easily coagulated ?

(ii) What is meant by catalyst poison ?

 [View Text Solution](#)

 [View Text Solution](#)

8. (i) How would you calculate the solubility of sparingly soluble salt using Kohlrausch's law ?
- (ii) Formic acid act as reducing agent. Prove this statement.

 [Watch Video Solution](#)

9. (i) What are the uses of nitrobenzene ?
- (ii) Write a note on formation of α -helix.

 [View Text Solution](#)

10. (i) Define TFM value.
- (ii) Differentiate thermoplastic and thermosetting.

 [Watch Video Solution](#)