



# CHEMISTRY

## BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

### SAMPLE PAPER - 17 (UNSOLVED)

#### Part I

1. Frothing agent used in froth floatation process is

.....

A. pine oil

B. olive oil

C. mustard oil

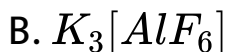
D. neem oil

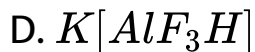
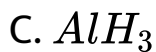
**Answer: A**



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2.  $AlF_3$  is soluble in HF only in the presence of KF. It is due to the formation of





**Answer: B**



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3. Pure ozone is .....

A. yellow gas

B. blue gas

C. Pale blue gas

D. bright blue gas

Answer: C



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4. Among the transition metals of 3d series the one that has highest negative  $\left(\frac{M^{2+}}{M}\right)$  standard electrode potential is

A. Ti

B. Cu

C. Mn

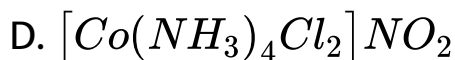
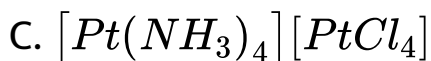
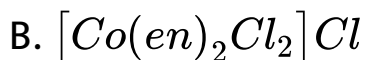
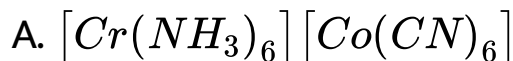
D. Zn

**Answer: A**



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5. Which one of the following will give a pair of enantiomorphs?



**Answer: B**



6. Match the list I and II using the code given below

that list :

List - I

List - II

A. NaCl

1. Molecular crystal

B.  $SiO_2$

2. Metallic crystal

C.  $C_6H_{12}O_6$

3. Ionic crystal

D. Dopper

4. Covalent crystal

A. 

	A	B	C	D
A.	3	4	1	2

B. 

	A	B	C	D
B.	2	3	4	1

C. 

	A	B	C	D
C.	4	1	2	3

D. 

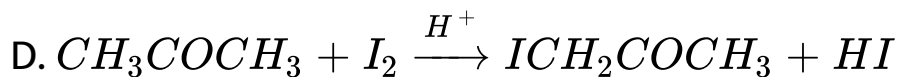
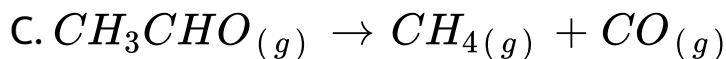
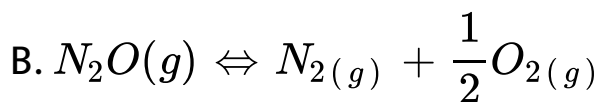
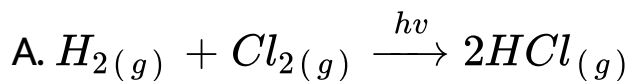
	A	B	C	D
D.	1	2	3	4

**Answer: A**



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7. Which one of the following is not zero order reaction?



**Answer: C**



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8. Review the equilibrium and choose the correct statement.



A.  $\text{HClO}_4$  is the conjugate acid of  $\text{H}_2\text{O}$

B.  $\text{H}_3\text{O}^+$  is the conjugate base of  $\text{H}_2\text{O}$

C.  $\text{H}_2\text{O}$  is the conjugate acid of  $\text{H}_3\text{O}^+$

D.  $\text{ClO}_4^-$  is the conjugate base of  $\text{HClO}_4$

**Answer: D**



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9. In a galvanic cell, the electrons flow from .....

- A. anode to cathode through the solution
- B. cathode to anode through the solution
- C. anode to cathode through external circuit
- D. cathode to anode through the external circuit

**Answer: C**



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10. Gold number gives .....

A. the amount of gold present in the colloid

B. the amount of gold required to break the  
colloid

C. the amount of gold required to protect the  
colloid

D. the measure of protective power of a lyophilic  
colloid

**Answer: D**



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**11. Assertion:** Phenol is more acidic than ethanol

**Reason:** Phenoxide ion is resonance stabilized

A. if both assertion and reason are true and reason is the correct explanation of assertion

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

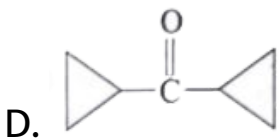
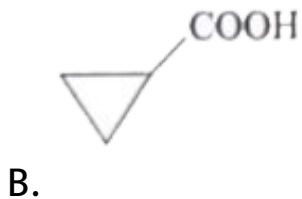
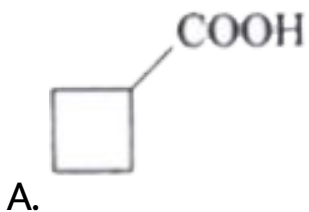
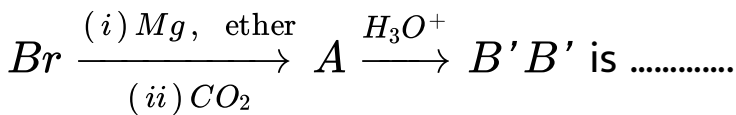
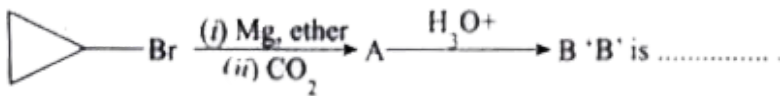
D. both assertion and reason are false

**Answer: A**



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12.



Answer: B



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13. Match the following .

Column I

A. Phenyl hydroxyl amine

B. Azo benzene

C. Hydrazo benzene

D. Nitroso benzene

Column II

1.  $C_6H_5 - N = O$

2.  $C_6H_5NH - NHC_6H_5$

3.  $C_6H_5NHOH$

4.  $C_6H_5N = NC_6H_5$

A. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	2	1

B. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	1	2

D. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	1	4	3

**Answer: A**



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**14.** In fructose, the possible optical isomers are

.....

A. 12

B. 16

C. 8

D. 4

**Answer: C**





15. Antiseptics and disinfectants either kill or prevent growth of microorganisms. Identify which of the following statement is not true.

- A. dilute solutions of boric acid and hydrogen peroxide are strong antiseptics
- B. Disinfectants harm the living tissues
- C. A 0.2% solution of phenol is an antiseptic while 1% solution acts as a disinfectant
- D. Chlorine and iodine are used as strong disinfectants

**Answer: A**



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## Part II

1. Why is the reduction of a metal oxide easier, if the metal formed is in liquid state at the temperature of reduction?



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2. Why nitrogen gas is chemically inert?





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3.  $[Ti(H_2O)_6]^{3+}$  is coloured ,while  $[Sc(H_2O)_6]^{3+}$  is colourless -explain



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4. Refractive index of a solid is observed to have the same value along all directions.

Comment on the nature of this solid. Would it show cleavage property?



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5. Which of 0.1 M HCl and 0.1 M KCl do you expect to have greater molar conductance and why?



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6. What are promoters? Explain with example.



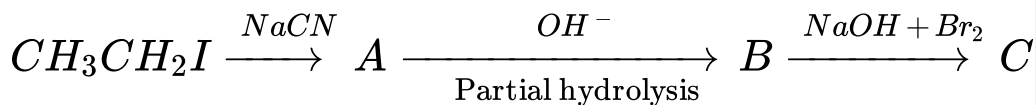
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7. Write the mechanism of acid catalysed dehydration of ethanol to give ethene.



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8. Identify compounds A,B and C in the following sequence of reactions.



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9. How is neoprene prepared? Give its use.



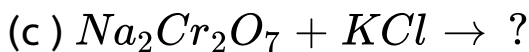
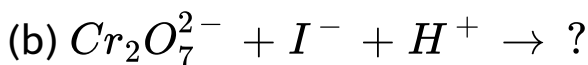
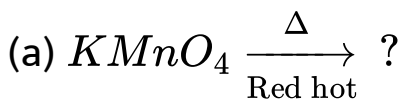
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Part Iii

1. Give any three methods to prepare carbon monoxide.

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2. Complete the following.



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3. An element crystallizes in a fcc lattice with cell edge of 400 pm. The density of the element is  $7\text{g}/\text{cm}^3$ . How many atoms are present in 280 g of the element?

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4. Derive integrated rate law for a zero order reaction  
 $A \rightarrow \text{product}$ .

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5. Differentiate Lewis acid and Lewis bases.



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6. How is propanoic acid is prepared starting from

(a) an alcohol

(b) an alkyl halide

(c ) an alkene



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7. How are vitamins classified?



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8. Draw the structure of (a) Codeine (b) Morphine



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## Part Iv

1. (a) Describe briefly allotropism in p - block elements with specific reference to carbon.



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2. (b) (i) Give two equations to illustrate the chemical behaviour of phosphine.

(ii) Explain the reaction between  $PCl_5$  and water.



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