



## CHEMISTRY

# BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

## SAMPLE PAPER - 19 ( UNSOLVED)

### Part I

1. A chemist involves mining process and he got two ores mixed together. If one is tinstone and another

one is chromite, which type of process will be used to separate that two ores?

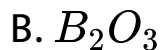
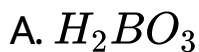
- A. Leaching process
- B. Froth floatation process
- C. Zone refining process
- D. Magnetic separation process

**Answer: D**



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2.  $H_2B_4O_7 \xrightarrow{\text{Red hot}}$  A. Identify A?



C. B



**Answer: B**



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- 3.
- |               |                        |
|---------------|------------------------|
| (i) Helium    | (a) flash bubls        |
| (ii) Neon     | (b) radioactive        |
| (iii) Krypion | (c) air balloons       |
| (iv) Radon    | (d) Brilliant red glow |



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4. Assertion :  $Ce^{4+}$  is used as an oxidizing agent in volumetric analysis.

Reason :  $Ce^{4+}$  has the tendency of attaining +3 oxidation state.

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.

**Answer: A**



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5. Shape of  $Fe(CO)_5$  is ,

A. Pentagonal bipyramidal

B. Square pyramidal

C. pyramidal

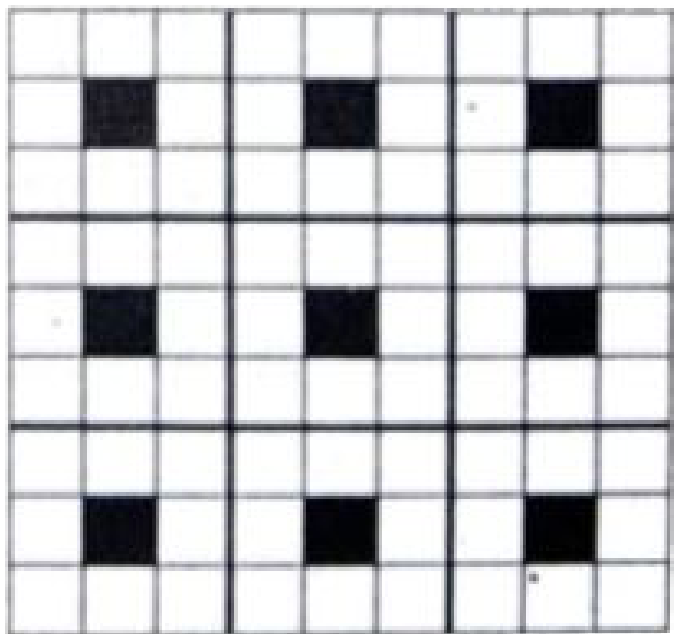
D. Trigonal bipyramidal

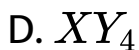
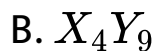
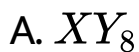
**Answer: D**



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6. A two dimensional solid pattern formed by two different atoms X and Y is shown below. The black and white squares represent atoms X and Y respectively. The simplest formula for the compound based on the unit cell from the pattern is .....





**Answer: A**



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7. In the reaction  $2NO_{(g)} + O_{2(g)} \rightarrow 2NO_{2(g)}$ ,

the order of the reaction with respect to NO is

.....

A. first order

B. second order

C. third order

D. zero order

**Answer: B**



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**8.** Consider the following statements.

(i) The dissociation of water is an exothermic reaction.

(ii) With the increase in temperature, the ionic



product of water value decreases.

(iii) With the increase in temperature, the ionic product of water value increase.

Which of the above statement is/are correct?

A. (i) and (ii)

B. (ii) only

C. (iii) only

D. (ii) & (iii)

**Answer: C**



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9. Zinc can be coated on iron to produce galvanized iron but the reverse is not possible. It is because

A. Zinc is lighter than iron

B. Zinc has lower melting point than iron

C. Zinc has lower negative electrode potential than iron

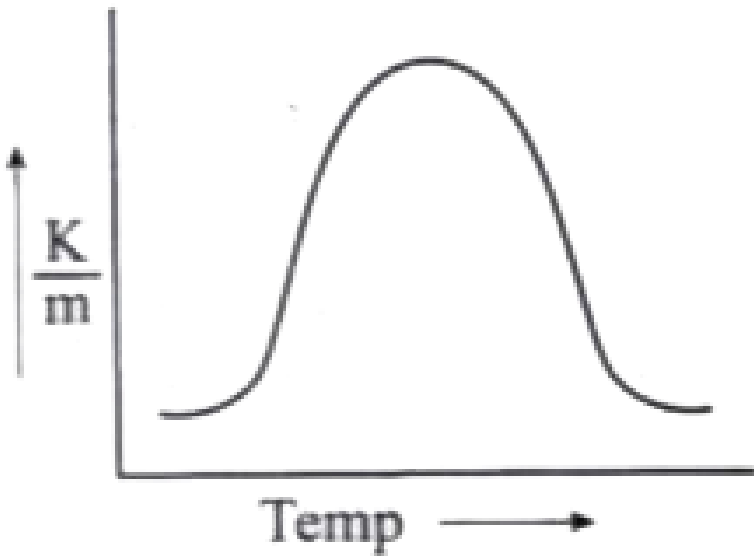
D. Zinc has higher negative electrode potential than iron

**Answer: D**



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10. This graph explains .....



- A. Absorption
- B. Physical adsorption
- C. Chemical adsorption
- D. Desorption

**Answer: C**



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**11.** Williamson synthesis of preparing dimethyl ether is a/an /

- A.  $SN^1$  reactions
- B.  $SN^2$  reaction
- C. electrophilic addition
- D. electrophilic substitution

**Answer: B**



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12. Which one of the following is used as an urinary antiseptic ?

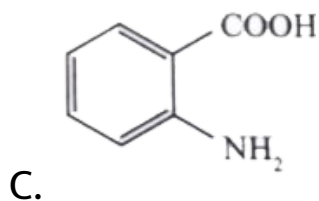
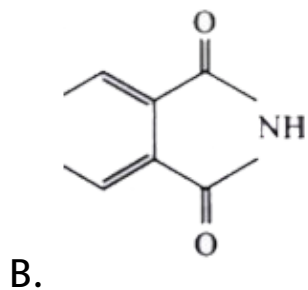
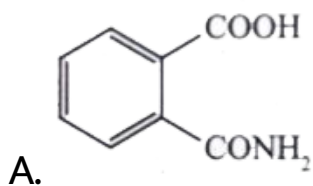
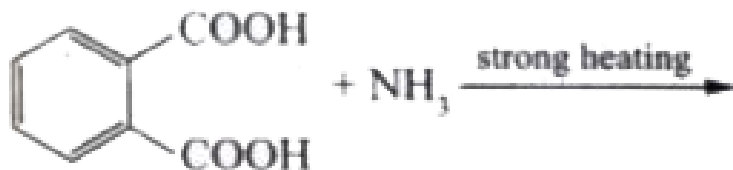
- A. Urotropine
- B. Urea formaldehyde
- C. Formalin
- D. Aldimin

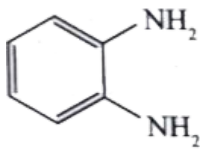
**Answer: A**



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13. The major product of the following reaction





D. .

**Answer: B**



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**14.** Monomer of cellulose is .....

A. L- glucose

B. D - glucose

C. ( - ) - glucose

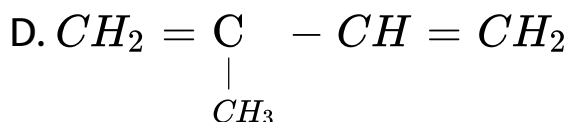
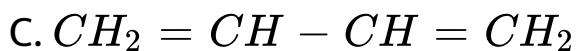
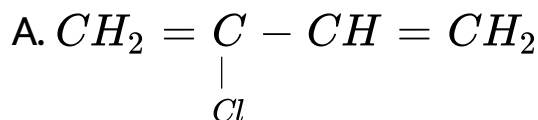
D. ( + ) - furctose

Answer: B



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15. Which is the monomer of neoprene in the following?



Answer: A





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## Part II

1. Find the Odd one out and give the reason.

A. Icosagens

B. Tetragens

C. Alkali metals

D. Chalcogens

**Answer: c**



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2.  $Ni(II)$  compounds are thermodynamically more stable than  $Pt(II)$  - Justify your answer.

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3. Give one test to differentiate

$[Co(NH_3)_5Cl]SO_4$  and  $[Co(NH_3)_5SO_4]Cl$ .

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4. What is meant by impurity defect? Explain with example.



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5. Define Rate law and Rate constant.



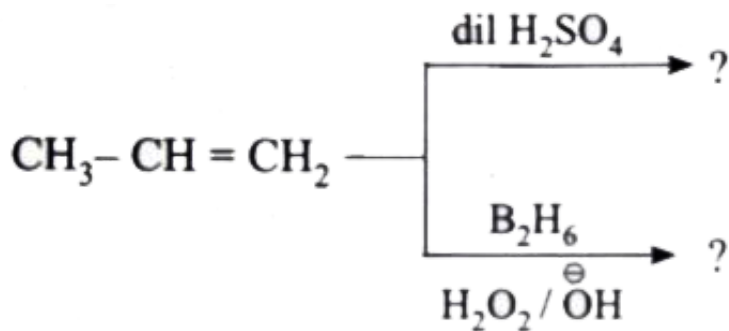
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6. How is sulphuric acid manufacture by contact process ?



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7. Complete the reactions

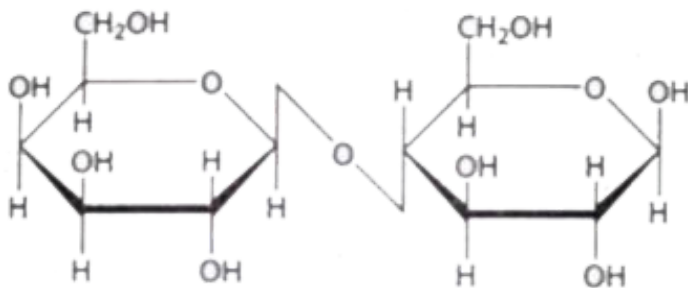


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8. Why acid anhydride are preferred to acyl chloride for carrying out acylation reactions?

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9. Identify the compound and explain whether it is reducing or non-reducing sugar for the following structure.



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### Part iii

1. Explain the reaction between diborane and ammonia?



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2. Benzene diazonium chloride in aqueous solution decomposes according to the equation  $C^6H^5N^2Cl \rightarrow C_6H_5Cl + N_2$  Starting with an initial concentration of  $10gL^{-1}$ , the volume of  $N_2$  gas obtained at  $50^\circ C$  at different intervals of time was found to be as under :

t (min):	6	12	18	24	30	$\infty$
Vol. of $N_2(ml)$ :	19.3	32.6	41.3	46.5	50.4	58.3

Show that the above reaction follows the first order kinetic. What is the value of the rate constant ?



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3. What is the difference between a sol and a gel?



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4. Give three test for carboxylic acid.



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## Part Iv

1. (b) Compound A is used in the manufacture of optical. A on heating gives B. B further heating to

form C. A reacts with hydrochloric acid to give D.

Identify A, B,C and D. Explain the reaction.



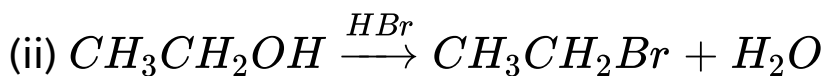
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2. What are enzymes? Write a brief note on the mechanism of enzyme catalysis.



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3. (b) (i) Explain Kolbe's reaction.





Mention the mechanism of above reaction and explain the mechanism involved in the reaction.

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4. (b) (i) Draw the structure of ampicillin.

(ii) How would you prepare Buna - S? Give its uses.

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