



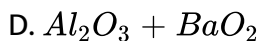
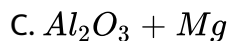
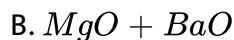
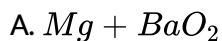
## CHEMISTRY

### BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

#### SAMPLE PAPER - 11 (UNSOLVED)

#### Part I

1. Ignition mixture used in aluminothermic process is .....



Answer: A



Watch Video Solution

2. The compound that is used in nuclear reactors as protective shields and control rods is

- A. metal borides
- B. metal oxides
- C. metal carbonates
- D. metal carbide

**Answer: A**

[Watch Video Solution](#)

3. Match the following :

- |               |               |
|---------------|---------------|
| (i) $XeF_4$   | (a) $sp^3$    |
| (ii) $XeOF_2$ | (b) $sp^2d^2$ |
| (iii) $XeO_3$ | (c) $sp^3d^3$ |
| (iv) $XeF_6$  | (d) $sp^3d$   |

[View Text Solution](#)

4. Sc (Z=21) is a transition element but Zinc (Z=30) is not because

- A. both  $Sc^{3+}$  and  $Zn^{2+}$  ions are colourless and form white compounds
- B. In case of Sc, 3d orbital are partially filled but in Zn these are completely filled
- C. last electron as assumed to be added to 4s level in case of zinc
- D. both Sc and Zn do not exhibit variable oxidation states

**Answer: B**



[Watch Video Solution](#)

5. Bethe and Van proposed a coordination theory named as ..... .

- A. Werner's theory

B. Valence bond theory

C. Molecular orbital theory

D. Crystal field theory

**Answer: D**

 [View Text Solution](#)

6. If 'a' stands for the edge length of the cubic system, sc, bcc, and fcc. Then the ratio of radii of spheres in these systems will be respectively.

A.  $\left( \frac{1}{2}a : \frac{\sqrt{3}}{2} : \frac{\sqrt{2}}{2}a \right)$

B.  $(\sqrt{1}a : \sqrt{3}a : \sqrt{2}a)$

C.  $\left( \frac{1}{2}a : \frac{\sqrt{3}}{4}a : \frac{1}{2\sqrt{2}}a \right)$

D.  $\left( \frac{1}{2}a : \sqrt{3}a : \frac{1}{\sqrt{2}}a \right)$

**Answer: C**

 [Watch Video Solution](#)

7. Activation energy of a chemical reaction can be determined by .....

- A. changing concentration of the reactants
- B. Evaluating rate constants at standard temperature
- C. Evaluating rate constants at two different temperature
- D. Evaluating velocities of reaction at two different temperature

**Answer: C**

 [Watch Video Solution](#)

8. The pH of an aqueous solution is Zero. The solution is

- A. Slightly acidic
- B. Strongly acidic
- C. Neutral

D. Basic

**Answer: B**

 [Watch Video Solution](#)

9. Assertion (A) : The cell potential of mercury cell is 1.35 V which remains constant.

Reason (R) : In mercury cell, the electrolyte is a paste of KOH and ZnO.

- A. Both A and R are correct, but R is not the correct explanation of A
- B. Both A and R are correct, but R is the correct explanation of A
- C. A is wrong but R is correct
- D. A is correct but R is wrong

**Answer: A**

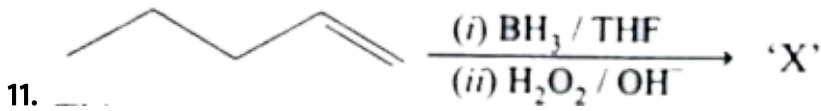
 [Watch Video Solution](#)

10. Hair cream is

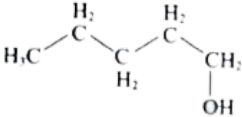
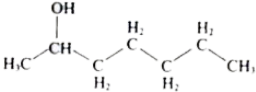
- A. gel
- B. emulsion
- C. solid sol
- D. sol.

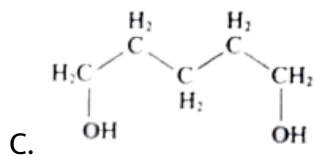
Answer: B

 Watch Video Solution



This 'X' is .....

- A. 
- B. 



D. None of these

**Answer: A**

[Watch Video Solution](#)

12. Carboxylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecular mass. It is due to their

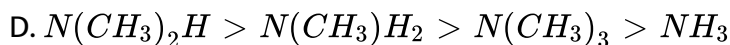
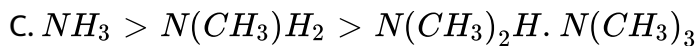
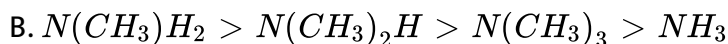
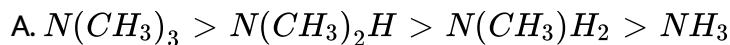
- A. more extensive association of carboxylic acid via van der Waals force of attraction
- B. formation of carboxylate ion
- C. formation of intramolecular H-bonding
- D. formation of intermolecular H-bonding

**Answer: D**



 [Watch Video Solution](#)

13. The order of basic strength for methyl substituted amines in aqueous solution is



**Answer: D**

 [Watch Video Solution](#)

14. Consider the following statements.

(i) In sucrose,  $C_1$  of  $\alpha$ -D-glucose is joined to  $C_2$  of D-fructose

(ii) Two monosaccharides are linked by glycosidic linkage

(iii) In sucrose,  $C_2$  of  $\alpha$ -D-glucose is joined to  $C_1$  of D-fructose

Which of the above statement is / are correct ?

A. iii only

B. i & ii

C. ii only

D. i & iii

**Answer: B**



[View Text Solution](#)

**15.** Saccharin, an artificial sweetener is manufactured from

A. cellulose

B. toluene

C. cyclohexene

D. starch

**Answer: B**

 [Watch Video Solution](#)

## Part II

1. List out the common refining methods.

 [View Text Solution](#)

2. Give 3 uses of aluminium chloride.

 [Watch Video Solution](#)

3. Which metal in the 3d series exhibits +1 oxidation state most frequently and why?

 [Watch Video Solution](#)

4. How many lattice points are there in one unit cell of each of the following lattice ?

(i) Face - centred cubic

(ii) Face-centred tetragonal

(iii) Body-

centered

 [Watch Video Solution](#)

5. The aqueous solution of sugar does not conduct electricity whereas when sodium chloride is added to water, it conducts electricity. Justify this statement.

 [Watch Video Solution](#)

6. What are the limitations of Freundlich adsorption isotherm?

 [View Text Solution](#)

7. Write the chemical equation for Williamson synthesis of 2-ethoxy -2-methyl pentane starting from ethanol and 2-methyl pentan-2-ol.

 [Watch Video Solution](#)

8. Write short notes on Gomberg reaction.

 [Watch Video Solution](#)

9. What are narcotic and non- narcotic drugs? Give examples.

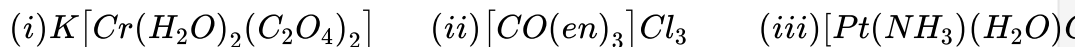
 [Watch Video Solution](#)

### Part Iii

1. Can  $PCl_5$  act as an oxidising as well as a reducing agent? Justify.

 [Watch Video Solution](#)

2. Indicate the types of isomerism exhibited by the following complexes and draw the structures for these isomers :



 [Watch Video Solution](#)

3. For the reaction  $2x + y \rightarrow L$  find the rate law from the following data.

$[x]$ (min)	$[y]$ (min)	Rate ( $M s^{-1}$ )
0.2	0.02	0.15
0.4	0.02	0.30
0.4	0.08	1.20

 [Watch Video Solution](#)

4. Why is anode in galvanic cell considered to be negative and cathode positive electrode ?

 [Watch Video Solution](#)

5. Differentiate physisorption and chemisorption.

 [Watch Video Solution](#)

6. A carbonyl compound A having molecular formula  $C_5H_{10}O$  forms crystalline precipitate with sodium bisulphite and gives positive iodoform test. A does not reduce Fehling solution. Identify A.

 [Watch Video Solution](#)

7. What are different types of RNA which are found in cell?

 [Watch Video Solution](#)

8. Give one important use of each of the following:

(i) Bithional (ii) Chloramphenicol (iii) Streptomycin

 [Watch Video Solution](#)

## Part Iv

1. (i) How will you prepare ozone by laboratory method? Explain the structure of ozone.

(ii)  $Cu^+$ ,  $Zn^{2+}$  are diamagnetic. Prove it.

 [Watch Video Solution](#)

2. (i) Describe the graphical representation of first order reaction.

(ii) Explain the Arrhenius concept of acid and base with example.

 [Watch Video Solution](#)



3. (i) Phenol is distilled with Zn dust gives (A) followed by Friedel-Crafts alkylation with propyl chloride to give a compound B, B on oxidation gives (C). Identify A, B and C.

(ii) How would you convert prop-1-yne to propanone?



**Watch Video Solution**