

Sample Paper

STD : XII CHEMISTRY
CBSE

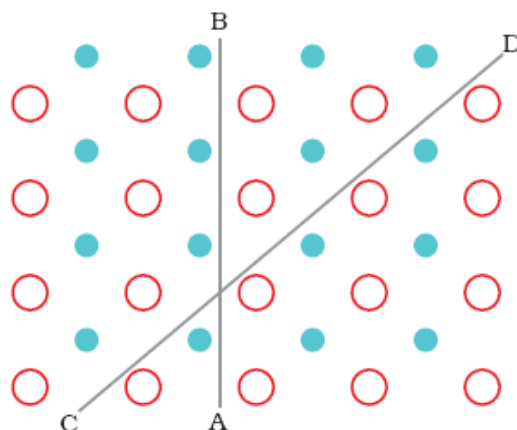
Zaid Mansuri
www.chemzblog.wordpress.com

MARKS: 70
TIME: 3 hrs.

GENERAL INSTRUCTIONS:

1. All questions are compulsory
2. Marks for each question are indicated against each.
3. Use log tables if necessary.

- Q1.** Of NH_3 & CO_2 which will be adsorbed more readily on charcoal & why? [1]
- Q2.** Give the IUPAC name of $\text{K}_2[\text{PdCl}_4]$. [1]
- Q3.** Name the reagent which can be used to convert butan-2-one to butan-2-ol. [1]
- Q4.** How are cyanohydrin & hemiacetal different? [1]
- Q5.** Direct nitration of aniline is not carried out. Why? [1]
- Q6.** Except vitamin B12, all the vitamins of group B, should be supplied regularly in diet, why? [1]
- Q7.** Identify the monomer in the following polymer: $[-\text{CO}-(\text{CH}_2)_8-\text{CO}-\text{NH}-(\text{CH}_2)_6-\text{NH}-]$ [1]
- Q8.** Give one advantage of soaps over detergents. [1]
- Q9.** Silver forms *ccp* lattice and X-ray studies of its crystal show that the edge length of its unit cell is 408.6 pm. Calculate the density of silver ($A_g=108$) [2]
- Q10.** Figure below shows arrangement of points (atoms) in a solid. Examine it and answer the following questions: (AB & CD are rays of light)
- (a) Identify the solid as amorphous or crystalline? (b) Comment on its refractive index.



[2]

1

- Q11.** (a) Which shows greater conductance of electricity, 1M NaCl at 298K or 1M NaCl at 413K?
 (b) Write the over all cell reaction during discharge of a lead-storage battery.

OR

- (a) Why is rusting of iron inhibited in alkaline medium?
 (b) Write the over cell reaction of Hydrogen-Oxygen fuel cell. [2]
- Q12.** Give the method of preparation of KMnO_4 along with the equations involved. [2]
- Q13.** Show diagrammatically (labeled) the splitting of d-orbitals in tetrahedral field. [2]
- Q14.** Carry out the following conversion:
 (a) Benzene to benzyl alcohol (b) 1-chloro propane to 2-chloro propane. [2]
- Q15.** Arrange as directed:
 (a) Nylon-6,6, Buna-S, Polyethylene in increasing order of their intermolecular forces.
 (b) Nylon-6, PVC, Neoprene in decreasing order of intermolecular forces. [2]
- Q16.** What is meant by the term broad spectrum antibiotics? Explain. [2]
- Q17.** On mixing 20 ml of 'A' & 20 ml of 'B' heat is liberated during the process & the total volume becomes 39.91 ml. Comment on the strength of the intermolecular forces in the solution & its deviation from ideal behavior. [2]

Q18. Give the IUPAC names of the following:



Q19. A solution is prepared by dissolving 8g of BaCl_2 in 100 g of water raises the boiling point of water by 0.52 K. Calculate the % dissociation of BaCl_2 . K_b for water = 0.52K kg/mol. [3]

Q20. Calculate the equilibrium constant of the Cu-Ag cell, if the cell potential is +0.46 V. Also write the overall cell reaction. [3]

Q21. What type of colloidal sols are formed in the following: (depending upon the type of particles of the dispersed phase)

(a) Sulfur vapors are passed through cool water.

(b) soap solution?

(c) Proteins in [3]

Q22. (a) Deduce the shape of BrF_3 on the basis of VSEPR theory.

(b) $\text{Ca}_3\text{P}_2 + \text{H}_2\text{O} \rightarrow ?$ [2+1]

2

Q23. (a) What is the effect of pH on the solution of $\text{K}_2\text{Cr}_2\text{O}_7$? Is this a redox reaction?

(b) Cu^+ is not stable in aqueous solution. Explain.

OR

(a) What is Lanthanoid contraction? What are its consequences?

(b) What happens when KMnO_4 in acidic medium, reacts with iodide ion. (give ionic equation) [2+1]

Q24. (a) How is 1-propoxypropane synthesized from propanol-1-ol? Give the mechanism.

(b) Give a chemical test to distinguish CCl_4 & CHCl_3 . [2+1]

Q25. Iodomethane reacts with KCN to form a major compound A which on reduction with LiAlH_4 forms a higher amine B. Compound B on treatment with aqueous ferric chloride gives a brown color ppt C.

Identify A, B, C giving the equations involved. [2+1]

- Q26.** (a) Give two points of difference between reducing and non-reducing sugars. [2+1]
 (b) What are the products obtained when sucrose is hydrolysed? [2+1]
- Q27.** Outline the principles of (a) Zone refining (b) Electrolytic refining (c) Van Arkel method. [3]
- Q28.** (a) 50% of a first order reaction gets completed in 16 minutes. What fraction of reaction would occur in 32 minutes? [3+2]
 (b) What do you mean by threshold energy? How is it related to activation energy? [3+2]

OR

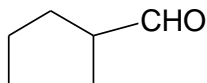
- (a) 60% of a first order reaction was completed in 60 minutes. When was it half completed? [3+2]
 (b) What are pseudo first order reactions? Give examples. [3+2]
- Q29.** (a) How can you prepare Cl_2 from HCl & HCl from Cl_2 ? [2]
 (b) Write the structure of pyrophosphoric acid. [1]
 (c) Present a comparative account of bond angle of H_2O & H_2S . [1]
 (d) Ammonia is a good complexing agent. [1]

OR


- (a) Which halogen acid is the strongest & which is the weakest acid? [1]
 (b) Write the reaction of thermal decomposition of sodium azide. [1]
 (c) Arrange the following in the order of increasing acid strength: [3]
 (i) hydrides of group 16 (ii) hypo halous acids (iii) oxo acids of chlorine

3

- Q30.** (a) Write the IUPAC name of: [1]



- (b) Write chemical equations to distinguish the following pair of organic compounds.
 (i) Propanal & propanone

	CBSEGuess.com
---	--

- (ii) Benzoic acid & ethyl benzoate. [2]
- (c) Describe Coannizzaro reaction with example. [2]
- OR
- (a) Write the structure of : p,p'-dihydroxybenzophenone. [1]
- (b) Write chemical equations to distinguish the following pair of organic compounds.
- (i) Phenol & benzoic acid
- (ii) acetophenone & benzophenone [2]
- (c) Describe Aldol condensation reaction with example. [2]

Zaid Mansuri

www.chemzblog.wordpress.com