

**MODEL QUESTION PAPER**  
**CHEMISTRY**  
**XII – STANDARD (STATE BOARD)**

**Time: 3 Hours**

**Max. Marks: 70**

**Instructions:**

1. Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.
2. Use Blue (or) Black ink to write and underline use pencil to draw diagrams. Note: Draw diagrams and write questions wherever necessary.

**PART – I**

**Note:** 1. Answer all the questions.

**15×1=15**

2. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

1	The spin only magnetic moment of $[\text{MnBr}_4]^{2-}$ is 5.9 BM. Geometry of the complex ion is a) Tetrahedral b) Octahedral c) Square planar d) Pentagonal pyramidal	1
2	Extraction of gold and silver involves leaching with cyanide ion. silver is later recovered by a) Distillation b) Zone refining c) Displacement with zinc d) Liquation	1
3	The compound used in eye drops and antiseptics is a) boron nitride b) boric acid c) sodium metaborate d) boron trioxide	1
4	The molarity of given orthophosphoric acid solution is 2M its Normality is a) 6N b) 4N c) 2N d) none of these	1
5	An excess of silver nitrate is added to 100ml of a 0.01M solution of pentaquachloridochromium (III) chloride. The number of moles of AgCl precipitated would be a) 0.02 b) 0.002 c) 0.01 d) 0.2	1

6	In the extraction of copper from its sulphide ore, the metal is finally obtained by the reduction of cuprous oxide with a) Iron sulphide (FeS) b) Carbon monoxide (CO) c) Copper (I) sulphide (Cu <sub>2</sub> S) d) Sulphur dioxide (SO <sub>2</sub> )	1
7	Three atoms P , Q , R crystallize in a cubic solid lattice having P atoms at corners, Q atom at body centre , R atom at face centre .Identify the formula of the compound a) PQR b) PQR <sub>2</sub> c) PQ <sub>2</sub> R d) PQR <sub>3</sub>	1
8	Higher alcohols are not soluble in water because of a) hydrophilic alkyl group b) hydrophobic alkyl groups c) hydrophilic aryl group d) hydrophobic aryl groups	1
9	Amino group can be directly converted into nitro group by a) Caro's acid b) Fuming mixture of conc.HNO <sub>3</sub> + conc.H <sub>2</sub> SO <sub>4</sub> c) NaNO <sub>2</sub> + HCl d) Ethanolic KNO <sub>2</sub>	1
10	Fog is colloidal solution of a) Solid in gas b) Gas in gas c) Liquid in gas d) Gas in liquid	1
11	The drug that binds to the receptor site and inhibits its natural function are called a) Anomers b) Agonists c) Antagonists d) None of the above	1
12	Sprouting barley is the main source of ____ sugar. a) Glucose b) Fructose c) Cellulose d) Maltose	1
13	The reagent used in the conversion of acetaldoxime to nitro ethane (1°) is a) Aqueous KMnO <sub>4</sub> b) Trifluoro peroxy acetic acid c) Alcoholic KOH d) Conc. HNO <sub>3</sub>	1
14	Which of the following is not an example of antacid? a) Histamine	1

	b) Cimetidine c) Ranitidine d) Erythromycin	
15	Formaldehyde reacts with ammonia to give a) $(\text{CH}_2)_4\text{N}_6$ b) $(\text{CH}_2)_5\text{N}_5$ c) $(\text{CH}_2)_6\text{N}_4$ d) $(\text{CH}_2)_6\text{N}_3$	1

### PART - II

Answer any six questions. Question No. 24 is Compulsory.

6×2=12

16	How will you identify presence of borate radical?	2
17	Write about impurity defect.	2
18	What is Bayer's reagent and write down its use?	2
19	What is inert pair effect?	2
20	Explain pseudo first order reaction with example.	2
21	Write a note on catalytic poison.	2
22	What is Libermann's nitroso test?	2
23	How will you prepare chloropicrin?	2
24	Draw the structure of Maltose.	2

### PART - III

Answer any six questions. Question No. 33 is compulsory.

6×3=18

25	Explain how silver is refined by electrolytic refining.	3
26	Describe the variable oxidation state of 3d series elements.	3
27	Explain about Holmes signal.	3
28	Write differences between order and molecularity of reaction.	3
29	Derive an expression for Ostwald's dilution law.	3
30	Derive an expression for Nernst equation	3
31	Explain Cannizaro reaction with mechanism.	3
32	How do antiseptics differ from disinfectants?	3
33	How does glucose reacts with acetic anhydride and hydroxylamine?	3

### PART - IV

Answer all the following questions.

5×5=25

34	a) i) Write the postulates of Werner's theory. ii) Write a note on Frenkel defect and metal excess defect. (OR) b) i) Explain the buffer action in a basic buffer containing equimolar ammonium hydroxide and ammonium chloride.	5
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	ii) Suggest a way to determine the value of water.	
35	a) i) Explain froth floatation method. (Diagram not necessary) ii) How is inorganic benzene prepared? (OR) b) i) Explain the action of nitric acid on metals with one example. ii) Explain the rate determining step with an example.	5
36	a) i) How will you convert acetylene into n-butyl alcohol? ii) Prove that formic acid is strong reducing agent. (OR) b) i) Write down the classification of Nitro compounds. ii) How will you convert benzene diazonium chloride to Benzene, Benzoic acid & iodobenzene	5
37	a) i) What are the different types of hormones? ii) What are the deficiency disease of Vitamin E, Vitamin K, Vitamin B7 . (OR) b) Explain how Free radical polymerisation occurs.	5
38	a) i) Derive Henderson – Hasselbalch equation to find pH of the buffer solution. ii) What is the difference between a sol and a gel? (OR) b) i) Explain about reduction of nitrobenzene in acidic medium. ii) What is Mitomycin C? Write down its structure and explain its uses.	5