

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	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 ₂ S) d) Sulphur dioxide (SO ₂)	1
2	The stability of +1 oxidation state increases in the sequence a) Al < Ga < In < Tl b) Tl < In < Ga < Al c) In < Tl < Ga < Al d) Ga < In < Al < Tl	1
3	Ce(Z=58) and Yb (Z=70) Exhibits stable +1 and +2 oxidation states respectively. This is because a) Ce ⁴⁺ and Yb ²⁺ acquire f 7 configuration b) Ce ⁴⁺ and Yb ²⁺ acquire f 0 configuration c) Ce ⁴⁺ and Yb ²⁺ acquire f 7 and f 14 configuration d) Ce ⁴⁺ and Yb ²⁺ acquire f 0 and f 14 configuration	1
4	Wolframite ore is separated from tinstone by the process of a) Smelting b) Calcination c) Roasting d) Electromagnetic separation	1
5	The spin only magnetic moment of [MnBr ₄] ²⁻ is 5.9 BM. Geometry of the complex ion is a) Tetrahedral b) Octahedral c) Square planar d) Pentagonal pyramidal	1
6	IUPAC name of H ₂ [PtCl ₆] is a) Hexachloridoplatinum (IV) acid b) Hexachloridoplatinum (IV) acid c) Hexachloridoplatinic (IV) acid d) Dihydrogen hexachloropletinate (IV)	1
7	A zero order reaction X Product, with an initial concentration 0.02 M has a half life of 10 min. if one starts with concentration 0.04 M, then the half life is a) 10 s b) 5 min c) 20 min d) cannot be predicted using the given information	1

8	Addition of sodium chloride to a saturated solution of silver chloride a) Dissociation of AgCl increases. b) Concentration of Cl ⁻ decreases. c) Dissociation of AgCl decreases. d) Concentration of Ag ⁺ increases.	1
9	The condition for a compound to be precipitated is a) Ionic product = solubility product b) Ionic product < solubility product c) Ionic product > solubility product d) Ionic product ≤ solubility product	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	In physisorption adsorbent does not show specificity for any particular gas because a) involved Vander Waals forces are universal. b) gases involved behave like ideal gases. c) enthalpy of adsorption is low. d) it is a reversible process.	1
12	Calcium acetate + calcium benzoate distillation give a) Benzophenone b) Benzaldehyde c) Acetophenone d) Phenyl benzoate	1
13	The reagent used in the conversion of acetaldoxime to nitro ethane (1°) is a) aqueous KMnO ₄ b) trifluoro peroxy acetic acid c) alcoholic KOH d) Conc. HNO ₃	1
14	The common name of CH ₃ – CH = CH – CHO a) acraldehyde b) crotonaldehyde c) cinnamaldehyde d) isobutyraldehyde	1
15	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

PART - II

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

6×2=12

16	How will you refine the low boiling volatile metals?	2
17	Write about impurity defect.	2
18	What is inert pair effect?	2
19	What are the Limitations of Arrhenius concept?	2
20	Give the examples for first order reaction.	2
21	Write a note on catalytic poison.	2
22	How will you prepare chloropicrin?	2
23	Write about Test to differentiate alcohol and phenols.	2
24	Draw the structure of sucrose.	2

PART – III

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

6×3=18

25	Give the structure of CO and CO ₂ .	3
26	Describe the variable oxidation state of 3d series elements.	3
27	Give the difference between double salts and coordination compounds.	3
28	Derive an expression for Ostwald's dilution law.	3
29	Explain the electrometallurgy of aluminium.	3
30	Explain Cannizaro reaction with mechanism.	3
31	How is terylene prepared?	3
32	Give any six difference between DNA and RNA.	3
33	Write a short note on peptide bond with example.	3

PART - IV

Answer all the following questions.

5×5=25

34	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
35	a) i) Describe the preparation of potassium dichromate. ii) What are the general characteristics of ionic solids. (OR) b) i) What is meant by stability of a coordination of compound in solution? State the factors which govern stability of complexes. ii) Explain how colloids are prepared by Condensation Methods.	5
36	a) How will you differentiate primary, secondary and tertiary alcohols by Victor's meyer test? (OR) b) How are the following conversions effected i) propanal into butanone? ii) hex-3-yne into hexan-3-one? iii) phenylmethanal into benzoin?	5
37	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
38	a) Write short notes on the following. i) Gabriel phthalimide synthesis. ii) Hofmann's bromide reaction. iii) Mustard oil reaction. (OR) b) i) How will you confirm the presence of aldehyde group in glucose? ii) Explain the preparation of bakelite and give its use.	5