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 a pencil to draw diagrams. Note: Draw diagrams and write questions wherever necessary.

Part – I

Answer all the following questions. **15x1=15**

1	Which one of the following ore is best concentrated by Froth floatation method? a) Magnetite b) Haematite c) Galena d) Cassiterite	1
2	Which compound is used as flux in metallurgy? a) Boric acid b) Borax c) Diborane d) BF_3	1
3	The shape of $XeOF_4$ is a) T Shaped b) Pyramidal c) Square planar d) Square pyramidal	1
4	How many moles of acidified $KMnO_4$ are required to oxidize one mole of oxalic acid? a) 5 b) 0.6 c) 1.5 d) 0.4	1
5	The type of isomerism exhibited by $[Pt(NH_3)_2Cl_2]$? a) coordination isomerism b) linkage isomerism c) optical isomerism d) geometrical isomerism	1

6	During electrolysis of molten copper chloride, the time required to produce 0.2 moles of chlorine gas using a current of 2 0 A is a) 32.66 min b) 321.66 min c) 378 min d) 260 min	1
7	Smoke is a colloidal solution of a) Solid in gas b) Gas in gas c) Liquid in gas d) Gas in liquid	1
8	Isopropyl benzene on oxidation in the presence of air and dilute acid gives a) C_6H_5COOH b) $C_6H_5COCH_3$ c) $C_6H_5COC_6H_5$ d) C_6H_5OH	1
9	But-2-ene on ozonolysis followed by subsequent cleavage with Zn and water gives a) Ethanal b) Propanal c) Propanone d) Methanal	1
10	The pyrimidine bases present in DNA are a) Cytosine and Adenine b) Cytosine and Guanine c) Cytosine and Thiamine d) Cytosine and Uracil	1
11	Nylon is an example of a) Polyamide b) Polythene c) Polyester d) Polysaccharide	1
12	Which one of the alcohols cannot be prepared by Grignard reagent? a) Methanol b) Ethanol c) Isopropyl alcohol d) Phenyl methanol	1

13	A compound 'X' when mixed with ethanol and a drop of concentrated H_2SO_4 gave a compound with a fruity odor. Identify 'X'. a) HCHO b) CH_3OH c) CH_3COOH d) CH_3NH_2	1
14	1-nitro butane and 2-methyl-1-nitropropane are belong to a) position isomerism b) functional isomerism c) tautomerism d) chain isomerism	1
15	Starch when heated with enzyme diastase yields a) glucose b) sucrose c) maltose d) glycogen	1

PART – II

Answer any six questions.

Question No. 24 is Compulsory. **6×2=12**

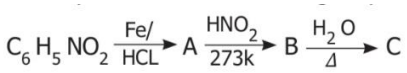
16	Write a test to identify borate radicals.	2
17	How is pure phosphine prepared from phosphorous acid?	2
18	What are ionisation isomers? Explain with an example.	2
19	What is the pseudo-first-order reaction? Give one example.	2
20	State Faraday's second law of electrolysis.	2
21	How will you convert glycerol into acrolein?	2
22	Give any four differences between DNA and RNA.	2
23	Write short notes on Antioxidants	2
24	50 ml of 0.05 M HNO_3 is added to 50 ml of 0.025 M KOH. Calculate the pH of the resultant solution	2

Part - III

Answer any six questions.

Question No. 33 is compulsory. **6×3=18**

25	Explain the electrometallurgy of aluminum	3
26	Give the uses of helium.	3
27	Explain the chromyl chloride Test.	3
28	A face-centered cubic solid of an element (atomic mass 60 gmol–1) has a cube edge of 40 A. Calculate its density.	3
29	Describe the construction of Daniel's cell and write its cell reaction.	3

30	Write short notes on i) Negative catalyst. ii) Phase transfer catalyst.	3
31	Explain the mechanism of Aldol condensation of acetaldehyde.	3
32	Explain the preparation of Nylon-6,6 and Buna-S.	3
33	Identify A to C in the following sequence. 	3

Part - IV

Answer all the following questions. **5×5=25**

34	a) i) Explain how gold ore is leached by the cyanide process. ii) Explain the classification of lnosilicates. Or b) i) What are interhalogen compounds? Give examples. ii) Explain the preparation of $KMnO_4$.	5
35	a) i) Explain $[Fe(CN)_6]^{3-}$ is paramagnetic, using Crystal Field theory. ii) What is Schottky defect? Or b) i) Derive Henderson - Hasselbalch equation. ii) What is Kohlraush's law?	5
36	a) i) Explain Intermediate compound formation theory. ii) Write short notes on ultra-filtration. Or b) How the following conversions are affected? i) Phenol → Salicylaldehyde ii) Phenol→ Phenolphthalein iii) glycol → 1, 4 dioxane	5
37	a) Write short notes on i) Mustard oil reactions ii) Carbylamine reaction iii) Gabriel pathalimide synthesis Or b) Explain the structure of Fructose.	5
38	a) i) A first-order reaction is 40% complete in 50 minutes. Calculate the value of the rate constant. At what time will the reaction be 80% complete? ii) K sp of Ag2 CrO4 is 1.1×10–12. What is the solubility of Ag_2CrO_4 in 0.1 M K_2CrO_4? Or b) Compound A of molecular formula C_7H_6O reduces Tollen's reagent when A reacts with 50% NaOH giving compound B of molecular formula C_7H_8O and C of molecular formula $C_7H_5O_2$ Na. Compound C on treatment with dil HCl gives compound D of molecular formula $C_7H_6O_2$. When D is heated with sodalime gives compound E. Identify A, B, C, D & E. Write the corresponding equations.	5