Sample Paper
Class – XII
Subject – Chemistry

1. All questions are compulsory.
2. Question nos. 1 to 8 are very short answer questions and carry 1 mark each.
3. Question nos. 9 to 18 are short
answer questions and carry 2 marks each.
4. Question nos. 19 to 27 are also short
answer questions and carry 3 marks each
5. Question nos. 28 to 30 are long
answer questions and carry 5 marks each
6. Use log tables if necessary, use of calculators is not allowed.

1. p-Dichlorobenzene has higher m.p and solubility than ortho and meta isomer .why

2. Sulphur in vapor state exhibits Para magnetism, why?

3. Which amongst the following is strongest oxidizing agent
    ClO4 – ,BrO 4- ,IO4-

4. What happen when a freshly prepared ferric hydroxide is shaken with ferric chloride solution? Name the process

5. Although thermodynamically feasible, in practice Mg metal is not used for the reduction of alumina in the metallurgy of Al why?

6. Two liquids A and B boil at 1350 C and 1850 C respectively. Which of them has higher vapour pressure at 800 C?

7. Identify X : X +H2 pd-BaSO4 C6H5(CH2CHO

8. When a crystal of NaCl is heated in Na vapour it acquires a yellow Colour. This is due to which defect?

9. How will you distinguish between the following
    (i)Propane-2-ol and benzyl alcohol (ii) Ethanol and 2-Butanol 2

10. Write the IUPAC names of (i)HOCH=CH-CH2-CH2OH (ii)CH3-O-CH(CH3)-CH2-CH3

11. Explain about Chromatography

12. Write the diseases caused by the deficiency of Vitamin A,C,D & E

13. Define(i)Peptide bond (ii) Denaturation as related to proteins

14. C6H5NO2—-Fe/HCl—-?A—NaNO2+HCl—–?B—-H2O/H+—?C 2 Identify A,B,C

15. (i)Primary amines have higher boiling point than tertiary amines. Why?
    (ii)Ammonolysis of alkyl halide doesnot give a corresponding pure amine .Expline

16. State Henry`s Law and mention some applications of Henry`s constant. 2
    Or

Molarity or molality, which is the best method to express concentration of a solution? Why?

17. Assuming complete dissociation, calculate the freezing point of a solution prepared by dissolving 6 g of glaubers salt($Na_2SO_4.10H_2O$) in 0.100 kg of water.($kf = 1.86$ k kg mol-1)

18. A reaction is carried out at two different initial concentration of reactant. The initial
concentrations are 1 mol L-1 and 2 mol L-1. The half life values obtained were 20 min and 40 min respectively. What is the order of the
reaction?

19. Identify the following substances:
i. It is about 550 times as sweet as cane sugar and excreted from body in urine unchanged .
ii. It is 100times as sweet as cane sugar and its use is limited to cold food and soft drinks as it is unstable at cooking temperature.
iii. It is trichloro derivative of Sucrose and it is stable at room temperature.

20. How Nylon 6,6 and Buna-S are prepared?

21. Write the reaction involved in the preparation of aryl halide from aniline

22. Identify complexes with different geometries depanding up on type of hybridization mention about colour and magnetic properties.(a)$[Co(NH3)6]3+$ (b)$[Co(CN)6]3-$

23. Niobium Crytallises like CsCl .If density is 8.55 g cm-3 calculate the atomic radius of niobium using its atomic mass 93 u.

24. Write the reactions involved in the manufacture of H_2SO_4 by contact process.

25. Give reasons for the following
(i) Only higher members of the group 18 of the periodic table are expected to form compounds.
(ii) SF_6 is used as gaseous electrical insulator
(iii) The electron gain enthalpy value of F2 is less negative than Cl2

26. Explain what is observed (i) When a beam of light is passed through a colloidal sol (ii) an electrolyte is added to the sol (iii)Electric current is passed through the colloidal solution. 3
Or
a) Why is alum added to water for purification?
b) Explain why deltas are formed where river and sea water meet.
c) Describe the preparation of a colloidal solution of arserous sulphide in water

27. For a certain chemical
reaction variation in the concentration in [R] vs time (S) plot is given below
(i)What is the order of the
reaction?
(ii) What are the units of rate constant k?
(iii)draw the plot log [R] 0/[R] vs time

28. a. How will you convert the following
(i)Toulene in to benzoic acid (ii) propanone in to propene
b. Describe the following (i) Aldol condensation (ii)cannizaro
reaction (iii)Friedel-Crafts
reaction Write reactions only 2,3
Or
a) An organic compound with the molecular formula C9H10O forms 2,4-DNP
derivative, reduces Tollen's reagent and undergoes Cannizaro
reaction. On vigorous oxidation, it gives 1,2-benzene dicarboxylic acid. Identify
the compound.
b) Write the steps and conditions involved in the following conversions: i)
Acetophenone to 2-phenyl-2-butanol. ii) Propene to acetone.

29. a.Indicate the steps in the preparation of potassium dichromate from chromite ore.
b. Account the following
(i)The lowest oxide of transition metal is basic, the highest is amphoteric /acidic
(ii)Transition metals have high enthalpy of atomization 3,2
Or
a. A blakish brown colored solid A when fused with alkali metal hydroxides in
presence of air, produces a dark green coloured compound B, which on
electrolytic oxidation in alkaline medium gives a dark colour purple coloured
compound C .Identify A,B,C and write the reactions involved.
b. What happens when an acidic solution of the green compound (B) is allowed to
stand for some time? give the equation involved. what is the type of
reaction called?

30. a. The resistance of a conductivity cell containing 0.001 M KCl solution at 298K
is 1500 Ohms. What is the cell constant if conductivity of 0.001 M KCl solution
at 298K is 0.146 x 10-3 S Cm-1.
b. write a short note on Fuel cell. 3,2
Or
How much electricity in terms of farady is required to produce 40 g of Al from
molten Al2O3
Calculate the emf of the following cell at 298 K Mg(s)/Mg2+//Cu2+(0.0001
M)/Cu(s) E0Mg/Mg2+ =-2.37 v E0Cu/Cu2+ =0.37 v