

Second year higher secondary examination March

Part III

CHEMISTRY

Maximum Score: 60

Time 2hrs

Answer any four questions from 1 to 5. Each carries 1 score

score (4x1=4)

-is a colligative property
a. Osmotic pressure b. Heat capacity c. Refractive index d. surface tension
- Common oxidation state of lanthanoids is
-is an ambidentate ligand
a).CN⁻ b).Cl⁻ c).OH⁻ d).H₂O
- Chlorofluoro Carbon compounds are called
- Lucas Reagent is

Answer any 8 questions from 6 to 15 Each carries 2 scores .

(8x2=16)

- State Kohlrausch's law.
- Write any two differences between order and molecularity
- The outer orbital electronic configuration Ni⁺² is 3d⁸ Calculate its magnetic moment.
- Write IUPAC name of the following compound a) K₄[Fe(CN)₆] b) [Co(NH₃)₆]Cl₃
- How will you prepare phenol industrially?
- Explain Williamson synthesis of ether with an example
- $\text{CH}_3\text{-CH=CH}_2 \xrightarrow[\text{Zn}]{\text{O}_3} \text{H}_2\text{O} \rightarrow \text{A+B}$
- How will you prepare benzaldehyde by a) Rosenmund's Reduction b) Gatterman Koch reaction
- $\text{R-NH}_2 + \text{CHCl}_3 \xrightarrow{\text{alcoholic KOH}} \text{A}$ Name the reaction.
- What are reducing and non-reducing sugars?

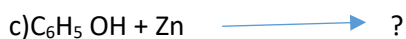
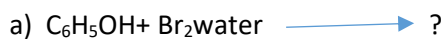
Answer any 8 questions from 16 to 26 Each carries 3 scores

(8x3=24)

- State Henry's law. Write any two applications.
- What is corrosion? Write any two methods to prevent corrosion.
- When temperature of a reaction changes from 300K to 310K rate constant of a reaction doubles. Calculate activation energy (R=8.314JK⁻¹mol⁻¹)
- Write any three characteristics of d-block elements
- Write the postulates of Werner's coordination theory
- Write any three differences between S_N¹ and S_N² reactions.
- a) complete the following reaction.
 $\text{CH}_3\text{Cl} + 2\text{Na} \xrightarrow{\text{dry ether}} ?$

b) Name and explain the above reaction.

23. complete the reactions .



24. Explain Cannizzaro reaction Write the equation.

25. What is Hinsberg reagent? How it is used to distinguish 1^0 , 2^0 and 3^0 amines.

26. What are monosaccharides, Disaccharides and polysaccharides? Write example for each

Answer any 4 questions from 27 to 31 each carries 4 scores (4x4=16)

27. Write four types of structural isomerism of coordination compounds with example.

28. a) What are ideal and non ideal solutions? (1)

b) Explain positive and negative deviation with example and diagram (3)

29. a) What is half-life period of a reaction (1)

b) Give equation for half-life period of first order and second order reaction (2)

c) Rate constant of first order reaction is 6340 years^{-1} . Calculate its half-life. (1)

30. a) Explain fuel cell reaction with an example (2)

b) Give cell reaction (1)

c) Write its advantages (1)

31. a) Complete the following



b) Explain how can you distinguish methanol (formaldehyde) and ethanol (acetaldehyde) (2)