## GUESS PAPER-2013

## CLASS XII

**Subject – CHEMISTRY**

 **MM : 70**

1. Define ‘Zero order reacton ‘. [1]

2. Define Peptization. [1]

3. Which is a stronger acid among HI and HCl ? Why ? [1]

4. NCl3 is known but NCl5 is not.Why? [1]

5. Write the IUPAC name of [Co(NH3)5(CO3)]Cl [1]

6. Draw the structure of Pent-1-en-3-ol. [1]

7. What happens in Decarboxylation ? write equation. [1]

8. What is meant by Pyranose structure of Glucose ? [1]

9. Gold crystallizes in a FCC structure(At mass of Gold=197;At radius = 0.144 nm).Determine the [2]

 density of Gold.

10.a) How does Schottky defect lower the density of a Crystalline solid ? [2]

 b) What type of Semi-conductor is produced when Silicon is doped with Arsenic ?

11.What mass of NaCl must be dissolved in 65.0 g of water to lower the freezing point of water [2]

 by 7.500C ?

 Assume Van’t Hoff factor for NaCl is 1.87. (Kf for water = 1.86 K Kg mol-1) Molar mass of NaCl = 58.5 g

12. A radioactive element is half disintegrated in 40 minutes.What is the time required for the decay [2]

 of 75% of the element ?

 13. A reaction is second order with respect to a reactant.How is the rate of reaction affected if the [2]

 concentration reactant is – i) Doubled ii) Reduced to half.

14. [Fe(H2O)6]3+ is strongly paramagnetic whereas [Fe(CN)6]3- is weakly paramagnetic.Explain. [2]

 (At. No. Fe = 26 )

 15. a) Out of CH3CHClCH2CH3 and CH3CH2CH2Cl ,which is more easily hydrolysed by KOH and why ? [2]

 b) Which one undergoes SN2 substitution reaction faster and why ? ![Iodopentane].png]()**OR**  

16. Why are Haloalkanes more reactive towards nucleophilic substitution reactions than Haloarenes ? [2]

17. Describe the given reactions : [2]

 a) Carbylamine reaction b) Hoffmann Bromamide reaction

 18. Complete the following : [2]

 a) C6H5CH2Cl-----NH3------🡪 ‘**A’** ------2CH3Cl----🡪 ‘**B** ‘

 b) CH3NH2 + C6H5COCl ---------🡪’ **A** ‘ +’ **B**’

 \*19. Anees went for Scuba diving.He had to cope with high concentration of dissolved gases while [3]

 breathing air at high pressure underwater.Increased pressure increases the solubility of

 atmospheric gases in blood.

1. What do the scuba divers experience when they come to the surface ? Why ?
2. Name and State the law which is related to the above observation.
3. Why are aquatic species more comfortable in cold waters ?

 20. a)What are Lyophilic and Lyophobic sols ? Give one example of each type.Which one of these two [2+1]

 types of sols is easily coagulated and Why ?

 b) Why is Chemisorption highly specific in nature ?

 21. Outline the Principle of the method used for refining of – i) Nickel ii) Zirconium iii) Tin [3]

 **OR**

 Explain the Hall Heroult process with diagram.

 22. What is XeO3 ? How is it formed ? Draw and name its structure. [3]

23.a) Write a reaction to show that Ozone is a powerful oxidising agent . [3]

 b) Why does PCl3 fume in moist air ?

 c) HF is a liquid while other hydrogen halides are gases.Why ?

24.a)How would you convert the following : [2+1]

 i) Propanone to 2-Methylpropan-2-ol .

 ii) Methy chloride to Methoxymethane .

 b) Why is Phenol more acidic than Ethanol ?

 25. i) Name the four bases of DNA. [3]

 ii) Write the Oxidation reaction of Glucose with Nitric acid.

 iii) Name two water soluble vitamins & the diseases caused due to their deficiency in diet.

 26. a) Distinguish between Homopolymers and Copolymers and give examples. [2+1]

 b) Write the structure for the Monomers of Teflon and Bakelite.

27. What are the following substances ? Give an example for each. [3]

 i) Artificial sweetening agents ii) Food preservatives iii) Analgesics

28. a) What type of battery is Lead storage Battery ? Write the anode and cathode reactions and [3+2]

 overall cell reaction.

 b) How many moles of mercury will be produced by electrolyzing 1.0 M Hg(NO3)2 solution with a current of 2.00 A for 3 hours ? [Hg(NO3)2 = 200.6 g mol-1]

**OR**

1. A voltaic cell is set up at 250C with the following half cells Al3+(0.001 M) and Ni2+ (0.50 M).

Write an equation for the reaction that occurs when cell generates an electric current and

 determine the cell potential. [Given E Ni2+/Ni = -0.25 V ; E Al3+/Al= -1.66 V ]

 b)What is a Fuel cell ? What are its advantages ?

 29. a) Explain giving reasons : [3+2]

 i) Transition metals generally form coloured compounds.

 ii) The enthalpies of Atomisation of Transition metals are high.

 iii) Lanthanoid contraction.

 b) Complete the following chemical equations :

 i) MnO4- + I-  + H+ ----------🡪

 ii) Cr2O72- + Fe2+ + H+ -----------🡪

**OR**

a)Account for the following :

 i) Members of Actinoid series exhibit a large number of oxidation states than the corresponding

 Lanthanoid series.

 ii) Transition metals form a large number of complex compounds.

 iii) There is a general increase in density from Titanium (Z=22) to Copper(Z=29).

 b) Indicate the steps in the preparation of Potassium dichromate from Iron chromite ore.

 30. a)Give simple chemical tests to distinguish between the following pairs of compounds - [2+3]

 i ) Propanal and Propanone ii) Phenol and Benzoic acid

 b) Bring about the following conversions :

 i) Benzoic acid to Benzaldehyde.

 ii) Butanol to Butanoic acid.

 **OR**

1. Illustrate the following name reactions –

i)Cannizzaro reaction ii) Clemmensen reduction

 b) Complete each synthesis by giving products in the following:

1. 

b)  + NH3

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