

SECOND REVISION TEST - 2024
STANDARD - XII
CHEMISTRY

Reg No

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Marks : 70

15 X 1 = 15

Time 3 00 Hrs

PART - I

Choose the correct answer

- Which of the following is paramagnetic in nature?
a) $[Zn(NH_3)_6]^{2+}$ b) $[Co(NH_3)_6]^{3+}$ c) $[Ni(CN)_4]^{2-}$ d) $[Ni(H_2O)_6]^{2+}$
- Crystal field stabilization energy for high spin d^5 octahedral complex is
a) 0 b) $2(P + \Delta_o)$ c) $-0.6 \Delta_o$ d) $2(P - \Delta_o)$
- The sum of primary valency and secondary valency of the metal M in the complex $(M(en)_2(OX))Cl$ is
a) 3 b) 6 c) -3 d) 9
- The number of electrons that have a total charge of 9650 coulombs is
a) 6.022×10^{24} b) 6.022×10^{23} c) 6.022×10^{22} d) 6.022×10^{21}
- A certain current liberated 0.504 gm of hydrogen in 2 hours. How many grams of copper can be liberated by the same current flowing for the same time in a copper sulphate solution
a) 7.5 b) 63.5 c) 15.8 d) 31.75
- The shape of As_2S_3 colloidal particle is
a) Rod b) Disc c) Spherical d) None of these
- Which of the following is positively charged colloid?
a) Haemoglobin b) Clay c) Starch d) Arsenic sulphide
- Benzene diazonium chloride on reduction with ethyl alcohol gives
a) phenol b) chlorobenzene c) toluene d) benzene
- Which one of the following will not undergo Hoffmann bromamide reaction?
a) CH_3CONH_2 b) $C_6H_5CONH_2$ c) $CH_3CH_2CONH_2$ d) $CH_3CONHC(CH_3)_3$
- Which of the following reagent can be used to convert nitrobenzene to aniline?
a) $ZnHg/NaOH$ b) $LiAlH_4$ c) Sn/HCl d) All of these
- Which of the following are epimers
a) D(+)-Glucose and D(+)-Galactose b) D(+)-Glucose and D(+)-Mannose
c) Neither 'a' or 'b' d) Both 'a' and 'b'
- Insulin, a hormone chemically is
a) Fat b) Steroid c) Protein d) Carbohydrates
- In a protein, various amino acid linked together by
a) Dative bond b) α - Glycosidic bond
c) Peptide bond d) β - Glycosidic bond
- Terylene is an example of
a) polyamide b) polysaccharide c) polyester d) polythene
- An example of antifertility drug is
a) salvarsan b) chloramphenicol c) novestrol d) seldane

PART - II

Answer any six questions. Question No. 24 is compulsory:

6 X 2 = 12

- Define oxidation number
- Define crystal field stabilisation energy
- Define anode and cathode
- What is peptisation?
- What are promoters?
- What is tautomerism?

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- 22 Write Nef carbonyl synthesis
 23 Define enzymes
 24 A solution of silver nitrate is electrolysed for 20mts with a current of 2 amperes. Calculate the mass of silver deposited at the cathode

PART – III

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

6 X 3 = 18

- 25 State Faraday's laws of electrolysis
 26 Give the applications of coordination compounds
 27 Discuss the factors affecting adsorption
 28 Write notes on electroosmosis
 29 How will you distinguish between primary, secondary and tertiary amines
 30 Differentiate DNA and RNA
 31 Write a short note on peptide bond
 32 Write a note on vulcanization of rubber
 33 How will you convert nitrobenzene into
 i) m - nitro aniline ii) azoxybenzene iii) TNB

PART – IV

Answer all questions:

5 X 5 = 25

- 34 a) Explain the postulates of Werner's theory 3
 b) Write the limitations of VB theory 2
 (OR)
 a) In the complex $[Pt(NO_2)(H_2O)(NH_3)_2]Br$ identify the following 5
 i) Central metal atom ii) Ligands and their types iii) Coordination entity
 iv) Oxidation number v) Coordination number and IUPAC name
 35 a) Derive Nernst equation 3
 b) Why does conductivity of a solution decreases on dilution of the solution 2
 (OR)
 a) Explain the function of H_2-O_2 fuel cell 3
 b) Ionic conductance of infinite dilution of Al^{3+} and SO_4^{2-} are 189 and 160 $mho\ cm^2\ equiv^{-1}$. Calculate the equivalent and molar conductance of the electrolyte $Al_2(SO_4)_3$ at infinite dilution 2
 36 a) Write the characteristics of catalysts 3
 b) What are heterogeneous catalysis? 2
 (OR)
 a) Explain electro dispersion method 3
 b) What is ultrafiltration? 2
 37 a) Write short notes on the following
 i) Sandmeyer reaction 1
 ii) Reaction of N-methyl aniline with nitrous acid 2
 iii) Coupling reaction 2
 (OR)
 b) Explain the structure of fructose 5
 38 a) Write a note on formation of α - helix 3
 b) What are food preservatives? 2
 (OR)
 a) Differentiate thermoplastic and thermosetting plastics 3
 b) Why do soaps not work in hard water? 2