New Style Model 1251 PAPER-7 CLASS—XII (H.P.) CHEMISTRY pe Allowed: 3 Hours cial Instructions: Same as in Model Test Paper—1. Maximum Marks: 60 In which of the following complexes the metal ion is in zero oxidation state: (b) Zn₂[Fe (CN)] (a) $Mn_2(CO)_{10}$ (c) $[Cu(NH_3)_4]$ Cl₂ (d) $[Ag(NH_3)_2Cl]$. 2. Percentage of silver in the alloy 'German silver' is: zero. Which one of the following metal ion is coloured? (a) Cr^{3+} (d) Sc^{3+} . (c) Zn²⁺ 4. The highest magnetic moment is shown by the transition metal ion with the outer electronic configuration: $(a) 3d^2$ $(c) 3d^7$ 5. The maximum extent of H-bonding is shown by: (b) H_2Se (a) H_2O (c) H_2S 6. In a mixture A and B compounds show negative deviation because: (a) $\Delta V_{\text{mix}} > 0$ (c) A - B interaction is weaker than A - A and B - B interactions (d) None of the above reasons are correct. 8. Give one example of S_N^1 reaction. 9. Calculate the half-life period of a first order reaction, whose specific rate constant is 2 min^{-1} . A solid AB has NaCl structure. If the radius of anion A+ is 100 pm, what is the radius FIVE ment diamid and a contract the (a) NO is paramagnetic in gaseous state, but diamagnetic in solid and liquid state. of anion B⁻? Justify. Write the structural formula of: (a) Phenolphthalein Nitrogen is a gas, but phosphorus is a solid, though both belong to the same group. Why?

(b) Molecular nitrogen is very less reactive, why? 13. Give four characteristics of enzymes. 14. Write the Nernst equation and calculate the e.m.f. of the following cell at 298 K. Fe (s) $|Fe^{2+}(0.001 \text{ M})| H^+(1 \text{ M})| H_2(1 \text{ atm.})$ MENTERS OF THE PARTY OF THE PAR Given: E° (Fe²⁺ | Fe) = -0.44 V; E° (Pt, H⁺ | H₂) = 0.00 V. 15. What do you understand by lowering in vapour pressure? Show that it is colligative property. TO THE MOTION YOURS OF THE BUT TO YOUR TO THE BUT TO THE 16. Distinguish between C₂H₅Cl and C₆H₅Cl. (a) Under what conditions CO can reduce Fe₂O₃? (a) Define the term "Velocity coefficient and temperature coefficient." 18. (b) What are effective collisions? Define Kohlrausch's law. How can it be used to find the degree of dissociation of a weak electrolyte? Distinguish between DNA and RNA. (b) Give one limitation of Ellingham diagram. (a) Explain, why ClF₃ exists whereas FCl₃ does not exist. 20. Give the shape of XeF, Mn (III) is strongly oxidizing. Explain. (a) Of the d^4 species Cr (II) is strongly reducing, but Mn (III) is strongly oxidizing. Explain. (b) Explain cleansing action of soap. Explain why: It is necessary to control the pH during the reaction of carbonyl compounds with ammonia derivatives. (b) Give the mechanism of esterification reaction. 23. Give the brief account of the following reactions: HVZ reaction. CIOCIANICO DE LA CEDUTO DE INCIDENCE (b) Cannizzaro's reaction. (a) Describe hydrate isomerism with an example. Aniline is less basic than NH₃, why? (c) How does primary, secondary and tertiary alcohols differ in terms of their dehydrogenation reaction? How will you bring about the following conversions: THEOTO I LEAD TO THE THE PARTY OF THE PARTY. (a) Ethyl iodide to n-Propyl iodide. AND DESCRIPTION OF FOR (b) Iodoform to Acetylene Andrew Control Delication Ages Isopropyl chloride to n-propyl chloride.

(a) How is phenol converted to azo dye and phenolphthalein? Write reactions.

(b) How can isocyanides be prepared from: (i) Alkyl halides (ii) Primary amines? (c) Why do tertiary amines not undergo acylation? 17. Complete the following reactions: ATTEMPT TO A BOUNDED A BUILDING CLOSE OF SEASON SERVICES SERVICES AND AND SERVICES. (a) CH₃CH₂Br + CH₃COOAg $\xrightarrow{\text{Heat}}$? (b) $C_6H_5OH + Conc. HNO_3 \xrightarrow{Conc. H_2SO_4}$? (c) $C_6H_5NH_2 + CH_3COCI \rightarrow ?$ direction of the established and the facilities of the (d) $C_6H_5OH + Br_2(aq) \longrightarrow ?$ (a) A solution containing 5% of a substance A is isotonic with a sol. containing 10 g of urea per litre. Calculate the molar mass of the substance A. The boiling point of pure water is 100°C. Calculate the boiling point of aqueous solution containing 0.6 g of urea (molar mass = 60) in 100 g of water (K_h for water = 0.52 K/m). decisive the transfer signs of most correct abids and was more trained and the Distinguish between order and molecularity of a reaction. What is effect of temperature on the rate constant of a reaction. It is to stom the accombase only believed to the partition of the local policy of the local partition of the contract of the c io. Which of the following solutions has the highest equivalent to doud! 120V. M. 10.0 (a) (c) 0.005 No March T. Define molecularity of a reaction. Carried Land teditor. arcenture satisfic de II. Write the reactions and conditions are an interesting to the second second will fodgota lytho offit be a ditro (1) termination of the second of t altipological to produce the second of the s the state of the s the state of the section of the state of the de la maiste de la faction La faction de The state of the s The first part of the second s