**Guess Paper- 2013
CHEMISTRY**

 **Class-XII**

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PRACTICE TEST ON CHAPTERS :

1. SOLID STATE ,2 SOLUTION 3. ELECTROCHEMISTRY

 4. CHEMICAL KINETICS 5. SURFACE CHEMISTRY

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Q1 Some of very old glass object appear slightly milky instead of being transparent?

Q2Which pont defect lower the density of crystal?

Q 3Explain with example(1) F-center (2)Frenkel defect ?

Q4 Classify each of the following as being either a p- type orn-type semiconductor

 (a)Ge dopped with In

(b)B dopped with Si

Q5Atoms of element B form hcp lattice and those of the element A occupy 2\3rd of the tetrahedral voids .What is the formula of the compound formed by these elements A and B ?

Q6Analysis shows that ametal oxide has the empirical formula M0.96 O1.00.Calculate the percentage of M2+ and M3+‑ions in the crystal.

Q7Niobium crystallizes in body centered cubic structure .if density is 8.55g cm-3.Calculate atomic radius of niobium given its atomic mass 93u.

Q8 Hwow many number assigned to its unit cell if an element form

 (a)body centered cubic cell (b)face centred cubic cell?

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 SOLUTION

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Q1State Henery law and mention its some important application?

Q2Define the following terms: 1)Molarity 2)Mole fraction 3)Molality

Q3What would be the Vant,s Hoff factor for a dilute solution of K2SO4?

Q4Calculate the Moles of methanol in 5 litres of its 2m solution ,if density of the solution is 0.981 kgL-1. Given molar mas of methanol 32.0gmol-1?

Q5What are azeotropes and hypertonic solution. Give example?

Q6What is ment by positive and negative deviation from Roults law How the sign of positive and –ve deviation from Roults law?

Q7 Two element Aand B form compound having molecular formula AB2 and AB4. When dissolve in 20 g of benzene ,1g of AB2 lower the freezing point by 2.3 K,whereas 1.0g of AB4lower its by 1.3K.The molar depression constt for benzene is 5.1Kkgmol-1Cal the atomic mass of A and B?

Q8. 2gram of benzoic acid dissolved in 25g of benzene show a depression in freezing point equal to 1.62K .Molar depression constant for benzene is 4.9Kkg mol-1What is the percentage association of acid if it forms double molecules in solution?

Q9 What is elevation in boiling point .How it helpful in calculating the molar mass of solute? Define also ebullioscopic constant?

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ELECRROCHEMISTRY

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Q1How does molar conductivity varies with concentration for weak electrolyte and for strong electrolyte .Give reason for each variation?

Q2Write the chemistry of rechargingthe lead storage battery ,highlighting all the material that involved during recharging?

Q3State two advantages of H2-O2 fuel cell over ordinary cell?

Q4Define the term specific conductance and molar conductivity for solution of electrolytes.What are its units?

Q5Write the chemical reaction involved in rusting of iron?

Q6The cell in which the following reaction take place

2Fe3+ aq+2I-  (aq)------------🡪2Fe2+ aq+ I2 (S)

Has E0CELL=0.236V at 298 K.Calculate the standered Gibbs energy AND equilibrium constt for the cell reaction?

Q7The electrical resistance of a column of 0.05M Na OH solution of diameter 1cm and length 50cm is 5.55x103ohm.calcuate resistivity, molar conductance?

Q8Explain Kohalrausch ;s law of independent migrationof ions? The molar conductance at infinite dilution or sodium acetate , hydrochloric acid and sodium chloride are 91, 425.4 and 126.4 Scm2mol-1respt at 298K Calculate the molar conductivity of acetic acid at infinite dilution?

Q9Predict if the reaction between the following is feasible:

1. Fe3+ aq and I- aq
2. Ag+ aq and Cu solid
3. Fe3+ aq and Br- aq
4. Ag solid and Fe3+ aq
5. Br2aq and Fe2+ aq

Given standered electrod potential

E01/2 I2/I- =0.54V , E01/2 Cu2+/Cu=.0.34V, E01/2Br2/Br- =1.09V,

 E01/2 Ag+/Ag=0.80V, E01/2Fe+3/Fe2+=0.77V

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 CHEMICAL KINETICS

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Q1Write four difference bet ween ORDER AND MOLECULARITY OF REACTION?

Q2What are pseudo chemical reaction? Give an example?

Q3Define activation energy.Can activation energy for reactions be zero?

Q4Write the unit of the rate constant of nth order and deduce the unit of rate constant for half order and 3rd order reaction?

Q5Half life period for radioactive decay of C-14 is 5730year An archaeological artefact contained wood had only 80% the C-14found in a living tree.Estimate the age of the sample?

Q6The rate constt for a first order reaction is 60s- How much time will it take to reduce the concentration of reactant to 1/10th of its intial value?

Q7Show that in case of first order reaction ,the time taken for completion of 99.9% reaction is 10time required for half change of the reaction?

Q8 The rate of the chemical reaction is double for an increase of 10K in absolute temperature from 298K .Calculate Ea?

Q9The following data were obtained during the first order thermal decomposition reaction of SO2Cl2at a constatnt volume?

SO2Cl2(g)----------🡪 SO2+ Cl2

 Exp time/s-  total pressure  /atm

1 0 0.5

2 100 0.6

 Calculate the rayte of reaction when total pressure is 0.65atm?

Q10Write the rate law for first order reaction and justify the statement that half life of such reaction is independent of the intial concentration of reactant?

Q11 List two factor on which the rate of chemical reaction depend?

Q12 Why the rate of reaction rises with rise the temperature?

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 Surface chemistry

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Q1Write four difference bet physical and chemical adsorption?

Q2Explain Frundlich adsorption isotherm mathematically at low , high and at intermediate range of pressure

Q3Name the catalyst and promoter that used in Haber processfor manufacturing of ammonia?

Q4 Out of ammonia and carbon dioxide which one adsorbed more redially on surface of charcoal?

Q5Classify the colloid on the basis of type of partical dispersed phase?

Q6 Write short notes on Dialysis and TYNDAL effect?

Q7 What is the difference between sol and gel?

Q8Why does physical adsorption decreases with increase the temperature?

Q9What do you means by activity and selectivity of catalyst?

Q10Explain the following:

1. Coagulation 2.electrophoresis3

Q11Explain the term with example

 1.alcosol 2. Aerosol, 3, hydrosol

Q12Comment on the statement that colloid is not a substance but it is a state of substance?

Q13Which of the following is most effective in coagulation for FERRIC HYDROXIDE SOL:

 KCl,Fe Cl3 ,Na2SO4, K2[Fe(CN6)].

Q14Prepare lyophobic colloids by condensastion method?

Q15 Explain what is observed when beam of light passed through colloidal sol ,an electrolyte NaCl is added to hydrated ferric oxide sol, electric current is passed through colloidal sol.?

Q16Wht are Zeolite Name the zeolite catalyst which convert alcohol to petrol?

Q17Describe the chemical method for the preparation of the sol of sulphur and platinium in water?

Q18 what is peptisastion and what is its cause?

 ALL THE BEST

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 CHEMISTRY

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