(2)

4. (v) Define PH and POH

(vi) How does the change of pressure shifts the equilibrium position in the synthesis of ammonia?

(vii) Explain how impure Cu can be purified by electrolytic process.

(viii) A salt bridge maintains the electrical neutrality in the cell. Explain.

(ix) Differentiate between enthalpy change of reaction and energy of activation of reaction.

SECTION – II

Note : Attempt any THREE questions.

5. (a) What is difference between actual yield and theoretical yield? Why actual yield is less than theoretical yield? **4**

(b) Classify solids on the basis of bonding. How ionic solids are formed? Give two properties of ionic solids. **4**

6. (a) Write the main postulates of VSEPR theory and explain the structure of ammonia on the basis of this theory. **4**

(b) When 2.00 moles of H_2 and 1.00 mole of O_2 at 100 ^{o}C and 1 torr pressure react to produce 2.00 moles of gaseous water, 484.5 KJ of energy is evolved? What are the values of (i) ΔH (ii) ΔE for the production of one mole of H_2O (g)? **4**

7. (a) 250 cm^3 of a sample of hydrogen effuses four times as rapidly as 250 cm^3 of an unknown gas. Calculate the molar mass of unknown gas. **4**

(b) State and explain with an example, the Hess's law of constant heat summation. **4**

8. (a) Write a note on synthesis of ammonia gas by Haber's Process keeping in mind the applications of chemical equilibrium in industry. **4**

(b) How can you measure electrode potential of an element with the help of Standard Hydrogen Electrode (SHE)? **4**

9. (a) What are ideal solutions? Explain the fractional distillation of ideal mixture of two liquids. **4**

(b) How does Arrhenius equation help us to calculate the energy of activation of a reaction? **4**

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