



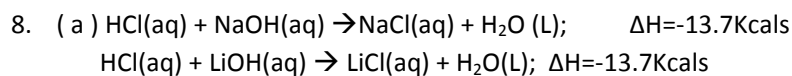
Chemistry

1. State whether the following statements are true or false.
 - (i) Positive ions are formed from the atom by the loss of protons.
 - (ii) Cobalt is a transition element
 - (iii) Ethylene is an unsaturated compound.
 - (iv) The principal quantum number of an atom represents spin angular momentum.
 - (v) Magnesium is a P block element.
2. Fill in the blanks in the following statements.
 - (i) Beta particles have ----- charge and ----- mass.
 - (ii) 0.1N KOH solution is prepared by dissolving ----- gram in 1000 ml water.
 - (iii) reduction indicates ----- of electrons.
 - (iv) Ethyl alcohol is obtained, when ethyl chloride is boiled with -----
 - (v) Ionisation potential increases with increase in -----
3.
 - (a) Name the four factors affecting equilibrium constant.
 - (b) Balance the following reactions
$$\text{Zn} + 4\text{HNO}_3 = \text{Zn}(\text{NO}_3)_2 + \text{-----} + 2\text{H}_2\text{O}$$

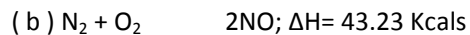
(conc.)
 - (c) What is epsom salt ?
 - (d) What happens when calcium carbide is hydrolysed ? Write equation.
4.
 - (a) How many electrons flow when a current of 5 amperes is passed through a solution for 193 seconds ? Given $F = 96500$ coulombs , Avogadro number $N = 6.022 \times 10^{23} \text{ mol}^{-1}$
 - (b) State the relations between the following two pairs
 - (i) ${}_{92}^{235}\text{U}$ and ${}_{92}^{238}\text{U}$ (ii) ${}_{6}^{11}\text{C}$ and ${}_{5}^{11}\text{C}$
5.
 - (a) What is oxidation number of Mn in KMnO_4 ?
 - (b) Arrange the following elements in the increasing order of electron affinities : Fluorine , Chlorine, Bromine and Iodine.
 - (c) Write the electronic configuration of Cu (atomic number 29)
 - (d) How many π bonds are present in a nitrogen molecule ?
 - (e) State the method of refining of copper.
6.
 - (a) calculate the pressure exerted by 11.0 gram of CO_2 at 27° in a volume of 3 litres.
 - (b) What is the action of chlorine gas on blue litmus paper ?
 - (c) What happens when Tollen's reagent is added to a solution of an aldehyde ?
7.
 - (a) The time for half change for a first order reaction is 50 min. Calculate the constant.
 - (b) Write the reactions when excess sodium hydroxide solution is added to aluminium nitrate solution.
 - (c) The oxidation of CHCl_3 is retarded by ----- Complete the statement.



Chemistry



Why are the values of ΔH constant in both the reactions?



The reaction is ----- and is favoured at ----- temperature

(c) What happens when chlorine gas is passed through hot austic soda solution ? Write an equation.

(d) Write the correct answer.

Sulphide ore is concentrated by froth floatation/ magnetic separation/roasting method.

9. (a) Give IUPAC nomenclature of the following

(i) Acetaldehyde (ii) Acetone

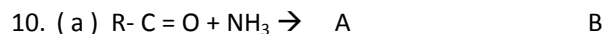
(b) Write the correct answer.

Ethylene is alkene/alkyne/alkane.

(c) Give the method of preparation of chloroform from acetone and bleaching powder.

Write equations

H_2, Ni



H

What are A and B ?

(b) What happens when nitrous acid reacts with ethyl amine ?

(c) Write correct answer.

Phenol gives violet/green/blue/red colour with neutral FeCl_3 solution.

(d) How is nitrobenzene converted to aniline ? Write an equation.