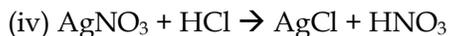


1. Name the following questions-
  - a. An alkali metal with 4 shells (1)
  - b. A fixed volume of a gas occupies 760 ml at 27 ° C and 70 cm of Hg. What will be its volume at S.T.P. (2)
  - c. Name a nonmetallic element which is : (2)
    - (i) a liquid at ordinary temperatures
    - (ii) a non metal which is a conductor of electricity.
  - d. The formula of the nitride of a metal X is XN, write the formula of its : (2)
    - (i) Sulphate
    - (ii) Hydroxide
  - e. State whether the following are oxidation or reduction (2)
    - (i)  $\text{Fe}^{+3}$  to  $\text{Fe}^{+2}$
    - (ii)  $\text{Ne}^{-2}$  to  $\text{Ne}^0$
  - f. An oxidizing agent that does not contain oxygen. (2)
  - g. Gas produced on heating zinc nitrate. (1)
  - h. How many elements are there in period 2. (1)
  - i. Describe a test to distinguish between carbon dioxide and hydrogen. (2)
  - j. Name the isotopes of Chlorine. (1)
  - k. Why does chlorine displace bromine from HBr? (1)
  - l. State any two industrial use of oxygen. (2)
  - m. Describe the color change which take place when moist blue litmus is placed in a gas jar of chlorine. (1)
  - n. Air coming out of a pressurized tire is always cool because- (1)
  - o. Write the electronic configuration of Na and Cl. (2)
2. Explain the hydrogenation of vegetable oil in detail. (2)
3. Mention any 3 point of difference between- (3x2)
  - a. compounds/mixtures
  - b. Isotopes/ isobars
4. How many small cans of 200ml at 2.5atm pressure can be filled from a big cylinder of 10litre and 10atm pressure of ideal gas in it? (2)
5. Write the valency of nitrogen in : (3)
  - (i) NO
  - (ii)  $\text{N}_2\text{O}$
  - (iii)  $\text{NO}_2$
6. Place the metals : calcium, iron, magnesium and sodium in order of their activity with water, placing the most active first. Write the equation for each of the above metals which react with water. (4)
7. Balance and state the type of reaction that takes place in the following reactions : (5)
  - (i)  $\text{Cl}_2 + \text{KI} \rightarrow \text{KCl} + \text{I}_2$
  - (ii)  $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$
  - (iii)  $\text{SO}_2 + \text{H}_2\text{O} + \text{Cl}_2 \rightarrow \text{HCl} + \text{H}_2\text{SO}_4$



8. Give reason for : (2x2)
- Acid is added to water drop wise for dilution but not vice versa.
  - It is dangerous to sleep in a closed room in which a coal fire is burning.
9. How would you obtain oxygen from a mixture of 'oxygen and ammonia'. (2)
10. Complete and balance the following equations : (8)
- $3\text{Cl}_2 + \text{KOH} \rightarrow 5\text{KCl} + \text{_____} + \text{_____}$
  - $\text{_____} + \text{CuSO}_4 \rightarrow \text{_____} + \text{Cu}$
  - $3\text{CaOCl}_2 + 2\text{NH}_3 \rightarrow \text{_____} + \text{_____} + \text{N}_2[\text{g}]$
  - $8\text{NH}_3(\text{excess}) + 3\text{Cl}_2 \rightarrow \text{_____} + \text{N}_2$
  - $\text{C}_{10}\text{H}_{16} + 8\text{Cl}_2 \rightarrow 10\text{C} + \text{_____}$
  - $\text{CO}_2 + \text{O}_2 \rightarrow \text{_____} + \text{_____}$
  - $\text{ZnCO}_3 + \text{Heat} \rightarrow \text{_____} + \text{_____}$
11. Name the anion present in the following compound [X] : 'the action of heat on the insoluble compound X produces a gas which turns lime water turbid. (2)
12. Explain Bosch Process  
OR  
Hydrolysis of water in detail. (with lab setup) (3)
13. Mention the 2 hazards related to- (2x3)
- SPM
  - $\text{SO}_3$
  - CFC
14. What are the merits and demerit of Mendeleev Periodic table? (3)
15. Why ice at  $0^\circ\text{C}$  have a better cooling effect than the water at the same temperature? (2)
16. Write down the reaction for the following- (3)
- A monovalent active metal with cold water.
  - Thermal decomposition of copper nitrate.
  - Reaction of quick lime with a chlorine containing acid.
17. Name any 4 green house gases. (2)