Chemistry assignment-STD-X

Ch:1 - Chemical reactions and equations

- Classify the following reaction as combination, decomposition, displacement, double displacement or redox reactions.
 - a) $ZnCO_3 \rightarrow ZnO + CO_2$
 - b) Lead nitrate -> Lead oxide + nitrogen dioxide + oxygen
 - c) $C + O_2 \rightarrow CO_2$
 - d) CuSO₄ + Fe→FeSO₄ + Cu
 - e) $CaO + H_2O \rightarrow Ca(OH)_2 + energy$
 - f) $2H_2O \rightarrow 2H_2 + O_2$
 - g) BaCl₂ + Na₂SO₄ → BaSO₄ + 2NaCl
 - h) Sodium + oxygen → Sodium oxide
 - i) $2AgBr \rightarrow 2Ag + Br_2$
 - j) $Fe_2O_3 + 2AI \rightarrow 2Fe + Al_2O_3$
- 2. Write the names of the substance oxidized, reduced, the oxidizing agent and the reducing agent in the following reactions.
 - a) $Fe_2O_3 + 3CO_2 + 2 Fe$
 - b) $CuO + H_2 \rightarrow Cu + H_2O$
 - c) $ZnO + C \rightarrow Zn + CO$
 - d) $MnO_2 + 4HCl \rightarrow MnCl_2 + Cl_2 + H_2O$
 - e) $Pb_3O_4 + 2C \rightarrow 3Pb + 2CO_2$
 - f) $SO_2 + H_2S \rightarrow S + H_2 \bigcirc$
- 3. State your observations for the following reactions. Name the type of the reaction and Write the balanced chemical equation for the same.
 - a) An iron blade is dipped is CuSo₄solution .
 - b) Magnesium ribbon ids burnt in air .
 - c) Lead nitrate crystals are heated.
 - d) Barium chloride solution reacts with aluminum sulphatesolution .
 - e) Calcium carbonate is heated strongly.
 - f) Ferrous sulphate crystals are heated strongly.
 - g) Quicklime is treated with water.
 - h) Silver chloride is exposed to sunlight.

- 4. Balance the following chemical equations .
 - a) $Ca + H_2O \rightarrow Ca(OH)_2 + H_2$
 - b) Al + Fe₂O₃ \rightarrow Al₂O₃ + Fe
 - c) $Cl_2 + HI \rightarrow 2HCI + I_2$
 - d) $K + O_2 \rightarrow K_2O$

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- e) Fe + $H_2O \rightarrow Fe_3O_4 + H_2$
- f) $SO_2 + H_2S \rightarrow S + H_2O$
- g) $KNO_3 \rightarrow KNO_2 + O_2$
- h) $ZnO + Cl_2 \rightarrow ZnCl_2 O_2$
- i) $N_2 + H_2 \rightarrow NH_3$
- j) Fe + $O_2 \rightarrow Fe_2O_3$
- k) $CH_4 + O_2 \rightarrow CO_2 + H_2O$
- I) Na + $H_2O \rightarrow NaOH + H_2$
- 5. A white compound X on heating decomposes to give a brown gas , a yellow residue and a gas which supports combustion .
- i) Name the compound.
- ii) Write the balanced chemical equation for the above reaction.
- iii) State the type of reaction .
- 6. Chloride of a metal X when exposed to sunlight turns grey from white . Name the type of reaction and identify X .
- 7. Acidified solution of compound 'A' undergoes decomposition on passing electric current through it to produce two gases 'B' and 'C'. Volume of 'B' is double the volume of 'C'. While 'C' supports combustion and is essential for life, 'B' is highly combustible. identify 'A', 'B' and 'C'. Write the balanced chemical equation for the same. Name the type of reaction involved.
- 8. Why is silver chloride stored in brown colored bottles?
- 9. Mention two industrial application of quick lime .