Chemical Equations

1. What information do you get from a balanced chemical equation? (AS1)

2. Why should we balance a chemical equation? (AS1)

3. Balance the following chemical equations. (AS1)
(a) NaOH+ H2SO4 Na2SO4 +H2O
(b) KClO3KCl + O2
(c) Hg (NO3)2+ KI HgI2+KNO3

4. Mention the physical states of the reactants and products of the following chemical reactions and balance the equatins. (AS1)

(a) C6H12O6 C2H5OH + CO2
(b) NH3 + Cl2 N2 + NH4Cl
(c) Na + H2O NaOH + H2

5. Balance the following chemical equation equation after writing the symbolic representation. (AS

(a) Calcium hydroxide (s) + Nitric acid (aq) Water (l) + Calcium Nitrate (aq)
(b) Magnesium (s) + Iodine (s) Magnesium Iodide (s)

6. Write the following chemical reactions including the physical states of the substances and balance chemical equations. (AS1)

(a) Sodium Hydroxide reacts with Hydrochloric acid to form Sodium Chloride and Water.

(b) Barium Chloride reacts with liquid Sodium Sulphate to leave Barium Sulphate as a precipitate and also form liquid Sodium Chloride.

7. Potassium nitrate and Sodium Nitrate reacts separately with copper sulphate solution. Write balanced chemical equations for the above reactions. (AS1)

8. 2 moles of Zinc reacts with a cupric choloride solution containing 6.023x1022 formula units of CuCl2 Calculate the moles of copper obtained (AS1)
Zn(s) + CuCl2(aq)
ZnCl2(aq) + Cu(s)

9. 1 mole of propane (C3H8) on combustion at STP gives ‘A’ kilo joules of heat energy. Caliculate the heat libarated when 2.4 ltrs of propane on combustion at STP. (AS1)

10. Caliculate the mass and volume of oxygen required at STP to convert 2.4 kg of graphite into carbon dioxide. (AS1)

11.Calculate the volume and No. of molcules of CO_2 liberated at STP. If 50 g. of $CaCO_3$ is treated with dilute hydrochloric acid which contains 7.3 g of dissolved HCl gas.
The Chemical equation for the above the reaction is
$CaCO_3(S) + 2HCl(aq) \rightarrow CaCl_2(aq) + H_2O(l) + CO_2(g)$

12.What are the steps involved in white washing of the walls.

13. Write the balanced chemical reactions using the appropriate symbols.