Classes of chemical compounds - 3

A. Reactions where acids and bases react with each other are called <u>reactions of neutralization</u>. In these reactions a salt and water are formed. E.g. below is a neutralization reaction between hydrochloric acid (HCl – acid) and sodium hydroxide (NaOH – base) with formation of salt (sodium chloride, NaCl) and water:

$$H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$$

B. When acidic oxides react with water, they form acids. E.g.:

$$SO_3 + H_2O \rightarrow H_2SO_4$$

C. When basic oxides react with water, they form bases. E.g.:

$$CaO + H_2O \rightarrow Ca(OH)_2$$

1. Write neutralization reactions between acids and bases that result in the following salts: $Al_2(SO_4)_3$, $NiCO_3$, $Fe(NO_3)_3$, $Mg(PO_4)_2$, PbS, Li_2SO_4

2. How many kg of P₂O₅ is necessary to obtain 98 kg of phosphoric acid H₃PO₄?