

1. Name these compounds "in English" : (10 %)

- (1) NaCl; (2) LiH; (3) HCl; (4) Cu₂S; (5) CCl₄;
(6) CO; (7) HNO₃; (8) KMnO₄; (9) NaHCO₃; (10) Ba(OH)₂;

2. Write the Lewis structure and formal charge for the carbonate ion : "CO₃²⁻".
(15 %)

3. Define these following terms and give an example : (75 %)

- (1) quantum number ;
(2) atomic number, mass number and isotopes ;
(3) electronegativity ;
(4) noble gases and the Octet rule ;
(5) mole, Avogadro's number and molar mass ;
(6) ideal gas equation ;
(7) exothermic and endothermic process ;
(8) the Pauli exclusion principle ;
(9) Le Chatelier's principle ;
(10) buffer solution ;
(11) valence-shell electron-pair repulsion : VSEPR ;
(12) the Arrhenius equation ;
(13) equilibrium constant ;
(14) the change in Gibbs free energy equation ;
(15) the Nernst equation.