Key

Science 9 **Test Ionic and Covalent Compounds** Name:_____

1) Write the chemical name for the following Ionic Compounds (**1 mark each**)

a) BeS

Beryllium sulfide

b) $Cu(NO_3)_2$

Copper (II) nitrate

c) $Bi_3(PO_4)_5$

Bismuth (V) phosphate

d) CaF_2

Calcium fluoride

e) $Cr_2(SO_4)_3$

Chromium (III) sulfate

f) $Ni(OH)_2$

Nickel (II) hydroxide

g) $K_2Cr_2O_7$

Potassium dichromate

h) $Pb(CO_3)_2$

Lead (II) carbonate

i) K_3P

Potassium phosphide

j) $NaHCO_3$

Sodium hydrogen carbonate
Sodium bicarbonate

2) Give formulas for the following Ionic Compounds (**1 mark each**) ***Must show work***

a) Aluminum bromide

$Al^{+3}\ Br^{-1}$

$Al_1\ Br_3$

$AlBr_3$

b) Barium Chloride

$Ba^{+2}\ Cl^{-1}$

$Ba_1\ Cl_2$

$BaCl_2$

c) Titanium (IV) nitrite

$Ti^{+4}\ (NO_2)^{-1}$

$Ti_1\ (NO_2)_4$

$Ti(NO_2)_4$

d) Lead (II) hydrogen sulphate

$Pb^{+2}\ (HSO_4)^{-1}$

$Pb_1\ (HSO_4)_2$

$Pb(HSO_4)_2$

e) Lithium hypochlorite

$Li^{+1}\ (ClO)^{-1}$

$Li_1\ (ClO)_1$

$LiClO$

f) Sodium nitrate

$Na^{+1}\ (NO_3)^{-1}$

$Na_1(NO_3)_1$

$NaNO_3$

g) Iron (III) bisulphate

$Fe^{+3}\ (HSO_4)^{-1}$

$Fe_1\ (HSO_4)_3$

$Fe(HSO_4)_3$

h) Chromium (III) sulphide

$Cr^{+3}\ S^{-2}$

$Cr_2\ S_3$

i) Nickel (II) sulphide

$Ni^{+2}\ S^{-2}$

$Ni_2\ S_2$

NiS

Key

3) Write the chemical name for each of the following Covalent Compounds (**1 mark each**)

a) C_3F_2

Tricarbon difluoride

b) P_2Br

Diphosphorous monobromide

c) I_4P_2

Tetriodine diphosphide

d) IO_4

Iodine tetroxide

e) C_2Cl

Dicarbon monochloride

f) N_3Br

Trinitrogen monobromide

g) SeI_3

Selenium triodide

h) ClS_2

Chlorine disulfide

i) N_2Br_3

Dinitrogen tribromide

4)Write the chemical formula for each of the following Covalent Compounds (**1 mark each**)

a) Chlorine dioxide

ClO_2

b) Selenium trioxide

SeO_3

c) Chlorine heptoxide

ClO_7

d) Selenium difluoride

SeF_2

e) Dinitrogen pentoxide

N_2O_5

f) Dinitrogen monoxide

N_2O

g) Arsenic pentachloride

$AsCl_5$

h) Sulphur monochloride

SCl

i) Diphosphorus pentoxide

P_2O_5

5) Answer the following questions (**1 mark each**)

a) Define / explain an ionic bond?

- metal + non-metal
- cation + anion
- charges hold compound together ("+" "−")

b) Define / explain a covalent bond ?

- non-metal + non-metal
- sharing of electrons

c) What is the difference between a multivalent metal ion and a polyatomic ion ?

multivalent

- positive charge "+"
- has more then one charge
- metal

polyatomic

- more then one atom
- covalently bonded (share electrons)