Answer the following questions:

Group I questions (10 Marks)

Explain in details the followings

1 – Ionization energy increases on going from left to right in the periodic table.

2 – The orbitals in each sub-shell have the same energy different in orientation.

3 – The chemistry of Boron is different from Thallium.

4 – Francium is less studied element in group I.

5 – The most stable compounds of the following elements; Tl, Pb, and Bi are in the oxidation state +1, +2, and +3 respectively.

Group II questions (10 Marks)

1 – Write the condensed electronic configuration of group III elements.

2 – Write the correct names of group IV elements.

3 – Freon are dangerous substance and harm the environment, define Freon and write method of preparation.

4 – There are two isotopes and two allotropes for carbon, name them and show the differences.

5 – Explain; H3PO2, H3PO3, H3PO4 are acids of phosphorus different in basisity.