

**Chemistry****Assignment 5 – 2<sup>nd</sup> TERM****Periodic Classification of Elements**

1. How many elements are known to us presently?
2. Why did the scientists feel the need to classify elements?
3. What was the basis of 'triads' formed by Dobereiner? Give an example.
4. What was Newlands 'Law of Octaves'?
5. Describe in brief the classification made by Mendeleyev.
6. Why did Mendeleyev leave some gaps in his periodic table?
7. Give 2 examples of such elements which could fit into gaps left by Mendeleyev.
8. Besides Gallium, which other elements have since been discovered to fill the gaps left by Mendeleyev in his periodic table?
9. What is the basis of the Modern classification?
10. Why have Mg, Ca and Sr been kept in the same group of the periodic table? Which group is it?
11. An element has electronic configuration 2, 8, 7.
  - (a) What is its atomic number?
  - (b) Name another element to which it has similar properties.
  - (c) Is it smaller or bigger than another element with atomic no. 16?
12. Why has hydrogen been placed in the first group of the periodic table although it is a non-metal?
13. How does the atomic radius change in a period and a group?
14. What change is observed across a period and down a group in the following:
  - (a) Electron affinity
  - (b) Ionization energyWhat is the unit of each?
15. Why are cations smaller than their corresponding atoms?
16. Why is the 18<sup>th</sup> gp of the periodic table called the zero group?
17. The position of three elements A, N and C in the periodic table is shown below:

Group 16	Group 17
A	
C	B

- (a) State whether A is a metal / non-metal.
  - (b) Which is more reactive, A or C?
  - (c) Which is larger, B or C?
  - (d) What type of ion will be formed by A?
18. An element X from group 2 reacts with element Y from group 17 to form a compound.
    - (a) What is the nature and formulae of the compound?
    - (b) State whether this compound conducts electricity or not?
    - (c) What is the valency of X and Y?
    - (d) How many valence electrons are there in X and Y?