SECOND SEMESTER. GRADE 9 *Chemistry* WORKSHEET

I. Matching

"A"	*"B"*
_____1. Nuclear charge	A. Rare earth elements
_____2. Effective nuclear charge	B. Z – S
_____3. Law of Octaves	C. Total positive Charge in nucleus of an atom
_____4. Inert gases	D. d- block elements
_____5. Representative elements	E. nS^2nP^6 valence electrons
_____6. Transition elements	F. J.A Newlands
_____7. Inner transition elements	G. F, O and N
_____8. The most EN elements	H. S and P – block elements
_____9. Halogens	I. VIIA elements
_____10. Periods	J. number of main shells
	K. J.W. Dobereiner

II. Choose the correct Answer

_____1. The general valence shell electronic configuration of Halogens is:-
A. nS^2nP^2 B. nS^2nP^4 C. nS^2nP^5 D. nS^2nP^6

_____2. Which of the following has the highest EN?
A. Ar B. O C. F D. N

_____3. Which of the following has the highest 1^{st} IE?
A. C B. N C. O D. B

_____4. Which of the following property increases both down a group and across a period?
A. Ionization Energy C) nuclear charge
B. Atomic Size D) electronegativity

_____5. Which of the following elements has the largest atomic size?
A. Mg B. Al C. Ca D`. K

_____6. The element with atomic number 35 belongs to _____
A. S – block B. P- block C. d – block D. f – block

_____7. How many groups are there in the modern periodic table?
A. 2 B. 18 C. 7 D. 8

_____8. An elements that an atomic number of 37 is found in:-
A. Group – I
B. A and Period – 5 C. Group IIIA and period – 6
C. Group – VA and Period – 5 D. Group IIA and period – 6

_____9. All of the following sets of elements have similar properties. EXCEPT:-
A. Ca B. K C. Ba D. Mg

_____10. Which one of the following elements is transition element?
A. Ca B. Rb C. Ni D. Kr

_____11. An element which has the valence electronic configuration $2S^22p^3$ belongs to ___group and __period.
A. IIA and 5 B. VA and 2 C. VA and 4 D. IIIA and 2

_____12. Non- metals are located in _____
A. S- block B. P-block C. d- block D. P and – d- block

_____13. All of the following scientists arranged elements based on their atomic Masses. Except:
A. Dobereiner B. Newland C. Mendeleev D. Henry Mosely

_____14. How many elements are found in the longest period of the periodic table?
A. 50 B. 18 C. 32 D. 22

_____15. nS^2 is the general electronic configuration of:-
A. Boron family B. alkali metals C. nitrogen family D. alkali earth metals

_____16. Mendeleev's periodic table is based on the _____
A. Atomic mass B. atomic number C. atomic radius D. ionization energy

III. Fill in the blank spaces

1. The elements whose outermost shell electrons fall in the d- Orbital are called_____
2. _____is the ability of an atom to attract the shared pair of electrons towards itself in a molecule.
3. The energy released when an electron is added to the valence shell of an isolated neutral gaseous atom is _____
4. _____are elements having an intermediate character b/n those of metals and non-metals.
5. The outermost electronic configuration of the most EN element is _____

IV. Give the Appropriate answer for the following questions

1. Who Proposed The modern periodic Law ?
2. What was the basis for the early attempts in classifying the elements?
3. Why does atomic size decreases from left to right a cross aperiod of the periodic table?
4. Calculate the Zeff of:-
   a) Be, Mg and Ca
   b) B, C and F
5. Why does the electron affinity of Cl does is higher than that of F?
6. Noble gases have extremely low electron affinities. Why? Explain
7. Define the terms:-
   a) Ionization energy
   b) Shielding/ Screening effect
   c) Effective nuclear charge
8. Arrange the following in increasing order of IE:-
   a) Na, Mg, Al b) K^+, Ar,Cl^- c) Al, Mg, S, P
9. Arrange the following in order of increasing atomic radius C, Si, N, P.
10. Why does sodium have a lower 1^{st} IE than lithium?
11. Why the 1^{st} IE of nitrogen is higher than that of oxygen?
12. List the factors that affect electron affinity
13. Explain why there are no P-block elements in the 1^{st} period of the periodic table?