PERIODIC TABLE-3

1. Write down the simple and spdf electron configurations of the following atoms.

A. $_{11}Na$ B. $_{20}Ca$ C. $_{32}Ge$

2. Write down the spdf electron configurations of the following ions.

A. $_{23}V^{+2}$ B. $_{31}Ga^{+3}$ C. $_{15}P^{-3}$

3. Draw the valence shell electron diagrams of the following atoms and ions.

A. $_{19}K$ B. $_{16}S^{-2}$ C. $_{14}Si$

D. $_{18}Ar$ E. $_{20}Ca^{+2}$ F. $_{22}Ti$

4. Calculate the number of half and full orbitals in the following atoms and ions.

A. $_{7}N$ B. $_{19}K^{+1}$ C. $_{33}As$

5. Calculate the number of electrons in s, p and d orbitals of the following atoms and ions.

A. $_{30}Zn$ B. $_{17}S^{-1}$ C. $_{8}O$

6. Na_2O is given;

A. Calculate the total number of electrons in one mole of Na_2O,

B. Write down the spdf electron configurations of sodium and oxide ions,

C. Write down formation of Na_2O.

D. Write down the half reactions for the formation of sodium and oxide ions.

E. How many electrons are transferred during the formation of Na_2O?

F. Determine the reducing and oxidazing agents.

7. Electron configuration of an ion X^{-3} ends with $4p^6$.

A. Write spdf electron configuration of X atom.

B. Calculate the number of electrons and protons in X^{-3} ion and X atom.

8. Find the period and group of the following elements in the periodic table.

A. $_{12}Mg$ B. $_{10}Ne$ C. $_{13}Al$ D. $_{34}Se$

9. Complete the following table;

Elements	spdf electron configuration	No. of valance electrons	Block in PT	Period	Group
$_{3}Li$					
$_{9}F$					
$_{18}Ar$					

10. Following elements are given;

$_{4}Be$, $_{5}B$, $_{8}O$, $_{16}S$, $_{20}Ca$, $_{31}Ga$

A. Find the pairs of elements which have similar chemical and physical properties.

B. Find their highest oxidation states.

C. Write their compounds with oxygen.

D. Which pair is the most active metal and non metal in the list.

E. Write the formula of two ionic and two covalent compounds from these elemets.

11. Answer the questions with respect to following elements given;

H, Na, N, Ar, Fe, Ga, F, Ca, Fr, Ag, Hg, Br, He

A. Write metal, non metal and metalloid elements,

B. Write noble gas elements,

C. Write s and d block elements,

D. Write elements which are diatomic in nature,

E. Find the most active metal and the most electronegative elemets,

G. Which of the has the smallest and largest atomic radius,

H. Which of them has the similar chemical and physical properties,

12. Complete the blanks in the following statements;

A. Atomic size of calcium atom is …….. than that of potassium atom.

B. The element ……. has 4 energy levels and in the last energy level there are 4 electrons.

C. ……..is the most active metal in the second period.

D. …… atom forms an ion with 3+ charge.

E. The element in the third period, with atomic number of ..... forms basic oxide.

F. The most common isotope of the element with atomic number of 30 contains ..... neutrons in the nucleus.

G. The element in the third period, with atomic number of ..... forms an acid oxide.