

## Chapter-5

### Worksheet-2

Q. 1. Which of the following set of elements is written in order of their increasing metallic character?

- (a) Be, Mg, Ca
- (b) Na, Li, K
- (c) Mg, Al, Si
- (d) C, O, N

Q.2. Up to which element was the Law of Octaves found to be applicable?

- (a) Oxygen
- (b) Calcium
- (c) Cobalt
- (d) Potassium

Q.3. Which of the following is the outermost shell for elements of period 2?

- (a) K shell
- (b) L shell
- (c) M shell
- (d) N shell

Q.4. In Mendeleev's Periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found place in the Periodic Table later?

- (a) Germanium
- (b) Chlorine
- (c) Oxygen
- (d) Silicon

Q.5. If the two members of a Dóbereiner triad are calcium and strontium, the third member of the triad is

- (a) Magnesium
- (b) Barium
- (c) Cesium
- (d) Sodium

Q. 6. The Modern Periodic Table contains

- (a) 18 periods and 7 groups.
- (b) 7 periods and 18 groups.
- (c) 7 periods and 7 groups.
- (d) 18 periods and 18 groups

Q. 7. Which of the following gives the correct increasing order of the atomic radii of O, F and N?

- (a) O, E, N

(b) N, F, O

(c) O, N, F

(d) F, O, N

Q.8. The electronic configuration of an element is 2, 8, 8, 2. This element belongs to

(a) 1st group.

(b) 2nd group.

(c) 3rd group.

(d) 4th group.

Q.9. Arrange the following elements in the order of their decreasing metallic character Na, Si, Cl, Mg, Al

(a)  $\text{Cl} > \text{Si} > \text{Al} > \text{Mg} > \text{Na}$

(b)  $\text{Na} > \text{Mg} > \text{Al} > \text{Si} > \text{Cl}$

(c)  $\text{Na} > \text{Al} > \text{Mg} > \text{Cl} > \text{Si}$

(d)  $\text{Al} > \text{Na} > \text{Si} > \text{Cl} > \text{Mg}$

Q.10. Three elements B, Si and Ge are

(a) Metals.

(b) Non-metals.

(c) uncalloids

(d) Metal, non-metal and metalloid respectively.

- Q. 11. (a) What does each group in the Periodic Table signify?  
(b) Why do elements in any given group have similar properties?

Q. 12. Why do group 1 elements form unipositive ions?

Q.13. Which is smaller?

(a)  $Na^+$  or  $Na$

(b)  $Cl$  or  $Cl^-$

Q.14. Give reasons:

(a) The elements of group 18 are called zero valent.

(b) Group 17 elements form uninegative anions.

Q.15. Would you place the two isotopes of chlorine,  $Cl-35$  and  $Cl-37$  in different slots because of y their different atomic masses or in the same because their chemical propert.es are the same?

Justify your answer.

Q.16. How does the metallic character change along the period?

Q.17. What is atomic radius? Why does atomic radius decrease across a period?

Q. 18. Why does the size of the atom increase down the group?

Q.19. Can the following groups of elements be classified as Dobereiner's triad?

(a) Na, Si, Cl

(b) Be, Mg, Ca

[Atomic mass of Be (9); Na (23); Mg (24); Si (28); Cl (35); Ca (40)]

Explain by giving reason.

Q.20. The atomic number of an element is 17. To which group and period does this element belong?

Determine its valency.