

**Valency and oxidation state**

- Which one of the following oxides is neutral  
(a)  $\text{CO}$  (b)  $\text{SnO}_2$   
(c)  $\text{ZnO}$  (d)  $\text{SiO}_2$
- All element in 3rd period have  
(a) An atomic number 3  
(b) 3 complete sub-shells  
(c) Valence electrons shell  
(d) 3 electrons less than the octet
- Which shows variable valency  
(a) s - block elements  
(b) p - block elements  
(c) d - block elements  
(d) Radioactive elements
- Most reducing agent is  
(a)  $\text{K}$  (b)  $\text{Mg}$   
(c)  $\text{Al}$  (d)  $\text{Ba}$
- Acidity of pentoxides in VA group  
(a) Decreases (b) Increases  
(c) Remains same (d) None
- If the valency shell electronic structure for an element is  $ns^2np^5$ , this element will belong to the group of  
(a) Alkali metals (b) Inert metals  
(c) Noble gases (d) Halogens
- The order in which the following oxides are arranged according to decreasing basic nature is  
(a)  $\text{Na}_2\text{O}, \text{MgO}, \text{Al}_2\text{O}_3, \text{CuO}$   
(b)  $\text{MgO}, \text{Al}_2\text{O}_3, \text{CuO}, \text{Na}_2\text{O}$   
(c)  $\text{Al}_2\text{O}_3, \text{MgO}, \text{CuO}, \text{Na}_2\text{O}$   
(d)  $\text{CuO}, \text{Na}_2\text{O}, \text{MgO}, \text{Al}_2\text{O}_3$
- Strongest reducing agent is  
(a)  $\text{Cl}_2$  (b)  $\text{Cl}^-$   
(c)  $\text{Br}^-$  (d)  $\text{I}^-$
- Metallic nature and basic nature of the oxides ..... as we move along a period  
(a) Increases  
(b) Decreases  
(c) First increases then decreases  
(d) Remains constant
- The correct order of increasing order of oxidising power is  
(a)  $\text{F}_2 < \text{Cl}_2 < \text{Br}_2 < \text{I}_2$   
(b)  $\text{F}_2 < \text{Br}_2 < \text{Cl}_2 < \text{I}_2$   
(c)  $\text{Cl}_2 < \text{Br}_2 < \text{F}_2 < \text{I}_2$   
(d)  $\text{I}_2 < \text{Br}_2 < \text{Cl}_2 < \text{F}_2$
- The most basic among these hydroxides, is  
(a)  $\text{Be}(\text{OH})_2$  (b)  $\text{Mg}(\text{OH})_2$   
(c)  $\text{Ca}(\text{OH})_2$  (d)  $\text{Ba}(\text{OH})_2$
- In any period the valency of an element with respect to oxygen  
(a) Increases one by one from IA to VIIA  
(b) Decreases one by one from IA to VIIA



- (c) Increases one by one from IA to IVA and then decreases from VA to VIIA one by one
- (d) Decreases one by one from IA to IVA and then increases from VA to VIIA one by one
13. Which will show maximum non-metallic character
- (a) *B* (b) *Be*  
(c) *Mg* (d) *Al*
14. Which of the following halogen acids is least acidic
- (a) *HI* (b) *HCl*  
(c) *HF* (d) *HBr*
15. Pentavalency in phosphorus is more stable when compared to that of nitrogen even though they belong to same group is due to
- (a) Reactivity of phosphorus  
(b) Inert nature of nitrogen  
(c) Dissimilar electronic configuration  
(d) Larger size of phosphorus atom
16. In the ground state of cobalt atom ( $Z = 27$ ) there are ..... unpaired electrons and thus the atom is.....
- (a) 2, diamagnetic  
(b) 2, paramagnetic  
(c) 3, diamagnetic  
(d) 3, paramagnetic
17. Variable valency in general, is exhibited by
- (a) Transition elements  
(b) Gaseous elements  
(c) Non-metals  
(d) *s*-block elements
18. An element of atomic weight 40 has 2, 8, 8, 2 as the electronic configuration. Which one of the following statements regarding this element is not correct
- (a) It belongs to II group of the periodic table  
(b) It has 20 neutrons  
(c) The formula of its oxide is  $MO_2$   
(d) It belongs to 4th period of the periodic table
19. Which of the following oxides is most basic
- (a)  $Na_2O$  (b)  $Al_2O_3$   
(c)  $SiO_2$  (d)  $SO_2$
20. In the periodic table, the metallic character of elements
- (a) Decreases from left to right across a period and on descending a group  
(b) Decreases from left to right across a period and increases on descending a group  
(c) Increases from left to right across a period and on descending a group





- (d) Increases from left to right across a period and decreases on descending a group
21. The halogen that most easily reduced is  
(a)  $F_2$  (b)  $Cl_2$   
(c)  $Br_2$  (d)  $I_2$
22. Which of the following is the correct order of gradually decreasing basic nature of the oxides  
(a)  $Al_2O_3, MgO, Cl_2O_7, SO_3$   
(b)  $MgO, Al_2O_3, SO_3, Cl_2O_7$   
(c)  $Cl_2O_7, SO_3, Al_2O_3, MgO$   
(d)  $SO_3, Cl_2O_7, MgO, Al_2O_3$
23. The correct order of reactivity of halogen is  
(a) Fluorine > bromine > chlorine > iodine  
(b) Fluorine > chlorine > bromine > iodine  
(c) Iodine > bromine > chlorine > fluorine  
(d) Bromine > chlorine > fluorine > iodine
24. Elements A and B with their respective electronic configurations  $3d^{10}4s^1$  and  $4d^{10}5s^1$  in their outermost shell are  
(a) Both non-metals  
(b) Both coinage metals
- (c) A is a non-metal and B is coinage metal  
(d) A is a coinage metal and B is non-metal
25. Which is the best reducing agent  
(a)  $F^-$  (b)  $Cl^-$   
(c)  $Br^-$  (d)  $I^-$

