Valency and oxidation state

- Which one of the following oxides is neutral
 - (a) CO
- (b) SnO_2
- (c) ZnO
- (d) SiO_2
- 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
- 3. Which shows variable valency
 - (a) s block elements
 - (b) p block elements
 - (c) d block elements
 - (d) Radioactive elements
- 4. Most reducing agent is
 - (a) K
- (b) *Mg*
- (c) AI
- (d) Ba
- 5. Acidity of pentoxides in VA group
 - (a) Decreases
- (b) Increases
- (c) Remains same
- (d) None
- 6. 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
- 7. The order in which the following oxides are arranged according to decreasing basic nature is

- (a) Na_2O , MgO, Al_2O_3 , CuO
- (b) MgO, Al_2O_3 , CuO, Na_2O
- (c) Al_2O_3 , MgO, CuO, Na_2O
- (d) CuO, Na_2O , MgO, Al_2O_3
- 8. Strongest reducing agent is
 - (a) Cl_2
- (b) Cl^-
- (c) Br^-
- (d) I^-
- 9. 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
- **10.** The correct order of increasing order of oxidising power is
 - (a) $F_2 < Cl_2 < Br_2 < I_2$
 - (b) $F_2 < Br_2 < Cl_2 < I_2$
 - (c) $Cl_2 < Br_2 < F_2 < I_2$
 - (d) $I_2 < Br_2 < Cl_2 < F_2$
- **11.** The most basic among these hydroxides, is
 - (a) $Be(OH)_2$
- (b) $Mg(OH)_2$
- (c) $Ca(OH)_2$
- (d) $Ba(OH)_2$
- **12.** 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 form IA to VIIA

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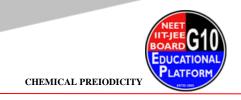
- (c) Increases one by one from IA to IVA and then decreases from VA to VIIA one by one
- (d) Decreases one by one from IA to IVA and then increases from VA to VIIA one by one
- **13.** Which will show maximum non-metallic character
 - (a) B

- (b) Be
- (c) Mg
- (d) AI
- **14.** Which of the following halogen acids is least acidic
 - (a) HI
- (b) HCI
- (c) HF
- (d) HBr
- 15. Pentavalency in phosphorus is more stable when compared to that of nitrogen even through 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



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- (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

- (c) A is a non-metal and B is coinage metal
- (d) A is a coinage metal and B is nonmetal
- 25. Which is the best reducing agent
 - (a) F
- (b) Cl^-
- (c) Br^-
- (d) I^-

- **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) Flourine > bromine > chlorine > iodine
 - (b) Flourine > chlorine > bromine > iodine
 - (c) lodine > bromine > chlorine > flourine
 - (d) Bromine > chlorine > flourine > 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

