DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : CHEMISTRY**
Date : **DPP No. : 7**

Topic :- Classification of Elements & Periodicity in Properties

1. Which of the following transitions involves maximum amount of energy?
   a) $M^-(g) \rightarrow M(g)$ b) $M(g) \rightarrow M^+(g)$ c) $M^+(g) \rightarrow M^{2+}(g)$ d) $M^{2+}(g) \rightarrow M^{3+}(g)$

2. Which of the following molecular species has unpaired electron(s)?
   a) N_2 b) F_2 c) O_2^- d) O_2^{2-}

3. The element having lowest ionisation energy among the following is:
   a) $1s^2,2s^2 2p^3$ b) $1s^2,2s^2 2p^6,3s^1$ c) $1s^2,2s^2 2p^6$ d) $1s^2,2s^2 2p^5$

4. Which of the following has largest ionic radius?
   a) Li^+ b) K^+ c) Na^+ d) Cs^+

5. Which will not conduct electricity?
   a) Aqueous KOH solution
   b) Fused NaCl
   c) Graphite
   d) KCl in solid state

6. The bond order is maximum in:
   a) H_2 b) H_2^+ c) He_2 d) He_2^+

7. The isoelectronic species among the following are:
   $I - CH_3^+; II - NH_2^+; III - NH_4^+; IV - NH_3$
   a) I, II,III b) II,III,IV c) I, II, IV d) II, I

8. The screening effect of d-electros is
   a) Equal to that of p-electrons b) More than that of p-electrons
   c) Same as f-electrons d) Less than p-electrons

9. OF_2 is:
   a) Linear molecule and sp-hybridized
   b) Tetrahedral molecule and sp^3-hybridized
   c) Bent molecule and sp^3-hybridized
   d) None of the above

10. Be and Al exhibit diagonal relationship. Which of the following statement about them is/are not true?
   I. Both react with HCl to liberate H_2
   II. They are made passive by HNO_3
   III. Their carbides given acetylene on treatment with water
   IV. Their oxides are amphoteric
   a) (iii) and (iv) b) (i) and (iii) c) (i) only d) (iii) only

11. Which is not linear?
   a) CO_2 b) HCN c) C_2H_2 d) H_2O

12. In which of the following bond angle is maximum?
   a) NH_3 b) NH_4^+ c) PCl_5 d) SCl_2

13. The molecule which has pyramidal shape is:
   a) PCl_3 b) SO_3 c) CO_3^{2-} d) NO_3^-

14. The complex ion which has no $'d'$ electrons in the central metal atom is:
   a) $[MnO_4]^-$ b) $[Co(NH_3)_6]^{3+}$ c) $[Fe(CN)_6]^{3-}$ d) $[Cr(H_2O)_6]^{3+}$

15. For the formation of covalent bond, the difference in the value of electronegativities should be:
   a) Equal to or less than 1.7
   b) More than 1.7
   c) 1.7 or more
   d) None of the Above

16. Strongest bond is in:
   a) NaCl b) CsCl c) Both (a) and (b) d) None of these

17. The formation of the oxide ion $O^{2-}(g)$ requires first an exothermic and then an endothermic step as shown below,
   $O(g) + e \rightarrow O^-(g)$; $\Delta H = -142$ kJ/mol
   $O^-(g) + e \rightarrow O^{2-}(g)$; $\Delta H = 844$ kJ/mol
   These is because:
   a) O^- ion has comparatively larger size than oxygen atom
   b) Oxygen has high electron affinity
   c) O^- ion will lead to resist the addition of another electron

d) Oxygen is more electronegative

18. Which among the following has the largest dipole moment?
    a) NH_3 b) H_2O c) HI d) SO_3

19. The correct order of radii is
    a) $N < Be < B$ b) $F^- < O^{2-} < N^{3-}$ c) $Fe^{3+} < Fe^{2+} < Fe^{4+}$ d) $Na < Li < K$

20. Diagonal relationship is for
    a) Li-Na b) Be-Mg c) Si-C d) B-Si