PRERNA EDUCATION
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Chapter 3 Classification of Elements and Periodicity

Assignment 1

Class 11

PRERNA EDUCATION

DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : CHEMISTRY**
Date : **DPP No. : 1**

Topic :- Classification of Elements & Periodicity in Properties

1. The ionisation energy of nitrogen is larger than that of oxygen because of

   a) Of greater attraction of electrons by the nucleus

   b) Of the size of nitrogen atom being smaller

   c) The half-filled p-orbitals possess extra stability

   d) Of greater penetration effect

2. Which has the highest ionisation potential?

   a) Na b) Mg c) C d) F

3. Which of the following does not represents the correct order of the property indicated?

   a) $Sc^{3+} > Cr^{3+} > Fe^{3+} > Mn^{3+}$ –ionic radii b) $Sc < Ti < Cr < Mn$ – density

   c) $Mn^{2+} > Ni^{2+} > Co^{2+} < Fe^{2+}$ – ionic radii d) $FeO < CaO < MnO < CuO$ – basic nature

4. The electronic configuration of most electronegative elements is

   a) $1s^2, 2s^2, 2p^5$ b) $1s^2, 2s^2, 2p^4, 3s^1$ c) $1s^2, 2s^2, 2p^6, 3s^1, 3p^1$ d) $1s^2, 2s^2, 2p^6, 3s^2, 3p^5$

5. Which group of the Periodic Table does not contain only metals?

   a) IB b) IA c) IIA d) IIIA

6. The species showing $p\pi - d\pi$ overlapping is:

a) NO_3^- b) PO_4^{3-} c) CO_3^{2-} d) NO_2^-

7. Variable oxidation state and degenerated orbital shows

a) s-block elements b) p-block elements c) d-block elements d) All of these

8. Which of the following is a metalloid?

a) Sb b) Mg c) Zn d) Bi

9. Which does not use sp^3-hybrid orbitals in its bonding?

a) BeF_3^- b) OH_3^+ c) NH_4^+ d) NF_3

10. Which of the following have highest electron affinity?

a) N b) O c) F d) Cl

11. The correct order of increasing electropositive character among Cu, Fe and Mg is:

a) $Cu \approx Fe < Mg$ b) $Fe < Cu < Mg$ c) $Fe < Mg < Cu$ d) $Cu < Fe < Mg$

12. As one moves along a given row in the Periodic Table, ionisation energy

a) Increases from left to right b) Decreases from left to right

c) First increases, then decreases d) Remains the same

13. The lightest metal is

a) Li b) Na c) Mg d) Ca

14. Which is the property of non-metal?

a) Electronegative

b) Basic nature of oxide

c) Reducing property

d) Low ionisation potential

15. In a given shell the order of screening effect is

a) $s > p > d > f$ b) $s > p > f > d$ c) $f > d > p > s$ d) $s < p < d < f$

16. Among the following compounds the one that is polar and has central atom with sp^2-hybridisation is:

a) H_2CO_3 b) SiF_4 c) BF_3 d) $HClO_2$

17. The formation of the oxide ion $O^{2-}(g)$ requires first an exothermic and then an endothermic step as shown below;

$O(g) + e^- = O^-(g);\ \Delta H° = -142\ kJmo1^{-1}$

$O(g)^- + e^- = O^{2-}(g); \Delta H° = 844\ kJmo1^{-1}$

This is because

a) Oxygen is more electronegative

b) Oxygen has high electron affinity

c) O^- ion will tend to resist the addition of another electron

d) O^- has comparatively larger size than oxygen atom

18. Which of the following statements is correct?

a) X^- ion is larger in size than X-atom b) X^+ ion is larger in size than X-atom

c) X^+ ion is larger in size than X^- ion d) X^+ and X^- ions are equal in size

19. Number of elements presents in the fifth period of periodic table is

a) 32 b) 10 c) 18 d) 8

20. The compound possessing most strongly ionic nature is:

a) $SrCl_2$ b) $BaCl_2$ c) $CaCl_2$ d) $CsCl$