

Chapter 3 Classification of Elements and Periodicity

Assignment 1

Class 11

Prerna Edu

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DPP

DAILY PRACTICE PROBLEMS

Class : XIth

Date :

Subject : CHEMISTRY

DPP No. : 1

Topic :- Classification of Elements & Periodicity in Properties

- The ionisation energy of nitrogen is larger than that of oxygen because of
 - Of greater attraction of electrons by the nucleus
 - Of the size of nitrogen atom being smaller
 - The half-filled p -orbitals possess extra stability
 - Of greater penetration effect
- Which has the highest ionisation potential?
 - Na
 - Mg
 - C
 - F
- Which of the following does not represent the correct order of the property indicated?
 - $\text{Sc}^{3+} > \text{Cr}^{3+} > \text{Fe}^{3+} > \text{Mn}^{3+}$ – ionic radii
 - $\text{Sc} < \text{Ti} < \text{Cr} < \text{Mn}$ – density
 - $\text{Mn}^{2+} > \text{Ni}^{2+} > \text{Co}^{2+} < \text{Fe}^{2+}$ – ionic radii
 - $\text{FeO} < \text{CaO} < \text{MnO} < \text{CuO}$ – basic nature
- The electronic configuration of most electronegative elements is
 - $1s^2, 2s^2, 2p^5$
 - $1s^2, 2s^2, 2p^4, 3s^1$
 - $1s^2, 2s^2, 2p^6, 3s^1, 3p^1$
 - $1s^2, 2s^2, 2p^6, 3s^2, 3p^5$

Which group of the Periodic Table does not contain only metals?
- IB
 - IA
 - IIA
 - IIIA
- The species showing $p\pi - d\pi$ overlapping is:

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- 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) $\text{Cu} \approx \text{Fe} < \text{Mg}$ b) $\text{Fe} < \text{Cu} < \text{Mg}$ c) $\text{Fe} < \text{Mg} < \text{Cu}$ d) $\text{Cu} < \text{Fe} < \text{Mg}$

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

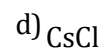
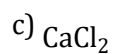
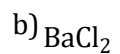
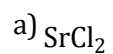
14. Which is the property of non-metal?

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- a) Electronegative
c) Reducing property
- b) Basic nature of oxide
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;
- $O(g) + e^- = O^-(g); \Delta H^\circ = -142 \text{ kJmol}^{-1}$
 $O(g)^- + e^- = O^{2-}(g); \Delta H^\circ = 844 \text{ kJmol}^{-1}$
- 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

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20. The compound possessing most strongly ionic nature is:



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