

Chapter 4: Chemical Bonding and Molecular Structure

Assignment 3

Class 11

Prerna Edu

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DPP

DAILY PRACTICE PROBLEMS

Class : XIth

Date :

Subject : CHEMISTRY

DPP No. : 3

Topic :- Chemical Bonding and Molecular Structure

- Which one is polar molecule among the following?
a) CH_4 b) CCl_4 c) CO_2 d) H_2O
- Shape of molecules is decided by:
a) Sigma bond
b) π -bond
c) Both sigma and π -bonds
d) Neither sigma nor π -bonds
- The shape of carbon dioxide is
a) Pyramidal b) Tetrahedral c) Planar d) Linear
- The correct ionic radii order is:
a) $\text{N}^{3-} > \text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
b) $\text{N}^{3-} > \text{Na}^+ > \text{O}^{2-} > \text{F}^- > \text{Mg}^{2+} > \text{Al}^{3+}$
c) $\text{Na}^+ > \text{O}^{2-} > \text{N}^{3-} > \text{F}^- > \text{Mg}^{2+} > \text{Al}^{3+}$
d) $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{N}^{3-} > \text{Mg}^{2+} > \text{Al}^{3+}$
- Which is not linear?
a) CO_2 b) HCN c) C_2H_2 d) H_2O

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6. Hybridisation of oxygen in diethyl ether is
- a) Sp b) sp^2 c) sp^3 d) sp^3d
7. What is the effect of more electronegative atom on the strength of ionic bond?
- a) Increases b) Decreases c) Remains the same d) None of these
8. Which of the following two are isostructural?
- a) XeF_2, IF_2^- b) NH_3, BF_3 c) CO_3^{2-}, SO_3^{2-} d) PCl_5, ICl_5
9. NF_3 is:
- a) Non-polar compound
- b) Electrovalent compound
- c) Having low value of dipole moment than NH_3
- d) Having more dipole moment than NH_3
10. Molecular size of ICl and Br_2 is nearly same, but boiling point of ICl is about $40^\circ C$ higher than Br_2 . This might be due to:
- a) $I-Cl$ bond is stronger than $Br-Br$ bond
- b) Ionisation energy of $I <$ ionisation energy of Br
- c) ICl is polar whereas Br_2 is non-polar
- d) The size of $I >$ size of Br
11. Which molecule is linear?
- a) H_2S b) NO_2 c) ClO_2 d) CO_2

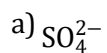
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12. Which of the following shows minimum melting point?
a) Naphthalene b) Diamond c) NaCl d) Mn
13. Which of the following does not have a lone pair on the central atom?
a) NH_3 b) PH_3 c) BF_3 d) PCl_3
14. Molecular orbital theory was given by
a) Kossel b) Mosley c) Mulliken d) Werner
15. NH_3 has a net dipole moment, but boron trifluoride (BF_3) has zero dipole moment, because:
a) B is less electronegative than N
b) F is more electronegative than H
c) BF_3 is pyramidal while NH_3 is planar
d) NH_3 is pyramidal while BF_3 is trigonal planar
16. Proton plays an important role in...bonding.
a) Electrovalent b) Hydrogen c) Covalent d) Coordinate
17. Which represents a collection of isoelectronic species?
a) $\text{Be}, \text{Al}^{3+}, \text{Cl}^-$ b) $\text{Ca}^{2+}, \text{Cs}^+, \text{Br}$ c) $\text{Na}^+, \text{Ca}^{2+}, \text{Mg}^{2+}$ d) $\text{N}^{3-}, \text{F}^-, \text{Na}^+$
18. An electrovalent compound does not exhibit space isomerism due to:
a) Presence of ions
b) High melting point
c) Strong electrostatic forces between constituent ions

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d) Non-directional nature of electrovalent bond

19. In which molecule Sulphur atom is not sp^3 -hybridized?



d) None of these

20. In which one of the following species, the central atom has the type of hybridization which is not the same as that present in other three?

