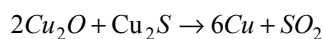


106. Heating mixture of Cu_2O and Cu_2S will give

- 1) Cu_2SO_3 2) $\text{CuO} + \text{CuS}$ 3) $\text{Cu} + \text{SO}_3$ 4) $\text{Cu} + \text{SO}_2$

Ans. (4)



107. The molecular shapes of SF_4 , CF_4 and XeF_4 are

- 1) different with 1, 0 and 2 lone pairs of electrons on the central atom, respectively
2) different with 0, 1 and 2 lone pairs of electrons on the central atom, respectively
3) the same with 1, 1 and 1 lone pair of electrons on the central atoms, respectively
4) the same with 2, 0 and 1 lone pairs of electrons on the central atom, respectively

Ans. (1)

In SF_4 ,

$$n = 6 + 4 = 10$$

$$\frac{n}{2} = 5$$

\therefore Hybridization of sulphur is sp^3d

Thus, shape is trigonal bipyramidal with one lone pair (See-saw shaped)

In CF_4 ,

$$n = 4 + 4 = 8$$

$$\frac{n}{2} = 4$$

\therefore Hybridization of carbon is sp^3

Thus shape is tetrahedral with zero lone pair

In XeF_4 ,

$$n = 8 + 4 = 12$$

$$\frac{n}{2} = 6$$

\therefore Hybridization of Xe is sp^3d^2

Thus, shape is octahedral with 2 lone pairs (Square planar).

108. The disperse phase in colloidal iron (III) hydroxide and colloidal gold is positively and negatively charged, respectively. Which of the following statements is NOT correct?

- 1) Coagulation in both sols can be brought about by electrophoresis
2) Mixing the sols has no effect
3) Sodium sulphate solution causes coagulation in both sols
4) Magnesium chloride solution coagulates, the gold sol more readily than the iron (III) hydroxide sol

Ans. (2)

By adding oppositely charged solution mutual coagulation of two sols can be done.

