Hybridisation

141. In which compound, the hydrogen bonding is the strongest in its liquid phase

(a) HF (b) HI

(c) CH_4 (d) PH_3

142. Geometry of ammonia molecule and the hybridization of nitrogen involved in it are

(a) sp^3 -hybridization and tetrahedral geometry

(b) sp^3 -hybridization and distorted tetrahedral geometry

(c) sp^2-hybridization and triangular geometry

(d) None of these

143. Be in $BeCl_2$ undergoes

(a) Diagonal hybridization

(b) Trigonal hybridization

(c) Tetrahedral hybridization

(d) No hybridization

144. Which of the following is non-linear molecule

(a) CO_3 (b) CO_2

(c) CS_2 (d) $BeCl_2$

145. The trigonal bipyramidal geometry results from the hybridisation

(a) dsp^3 or sp^3d

(b) dsp^2 or sp^2d

(c) d^2sp^3 or sp^3d^2

(d) d^3sp^2 or d^2sp^3

146. The valency of carbon is four. On what principle it can be explained in a better way

(a) Resonance

(b) Hybridization

(c) Electron transfer

(d) None of the above

147. Hybridization is due to the overlapping of

(a) Orbitals of different energy levels

(b) Orbitals of different energy content

(c) Orbitals of same energy content

(d) None of the above

148. If a molecule MX_3 has zero dipole moment, the sigma bonding orbital used by *M* are

(a) sp^3d –hybrid (b) sp –hybrid

(c) sp^3d^2 –hybrid (d) sp^2 –hybrid

149. The linear structure is assumed by

(a) $SnCl_2$ (b) NCO^-

(c) CS_2 (d) NO_2^+

150. Hybridisation of central atom in NF_3 is

(a) sp^3 (b) sp

(c) sp^2 (d) dsp^2

151. The pair having similar geometry is

(a) $PCl_3,\ NH_3$ (b) $BeCl_2,\ H_2O$

(c) CH_4, CCl_4 (d) $IF_5,\ PF_5$

152. The *d*-orbital involved in sp^3d hybridisation is

(a) $d_{x^2-y^2}$ (b) d_{xy}

(c) d_{z^2} (d) d_{zx}