1. Which of the following compounds have same geometry among the following :
(i) C_2H_4 (ii) $AlCl_3$ (iii) CH_4 (iv) NF_3

   A. $(i), (iv)$

   B. $(i), (ii), (iv)$

   C. $(i), (iii), (iv)$

   D. $(iii), (iv)$

2. Let us consider a compound with molecular formula MX_3 having a lone pair in M. what will be the possible value of $\angle XMX$?

   A. Greater than 120^o

   B. Greater than 112^o

   C. Greater than 109.5^o

   D. Less than 109.5^o

3. The correct order of bond angles (smallest first) in $H_2O,\ NH_3,\ BF_3$ and SiH_4 is:

   A. $H_2O < SiH_4 < NH_3 < BF_3$

   B. $NH_3 < H_2O < SiH_4 < BF_3$

   C. $H_2O < NH_3 < SiH_4 < BF_3$

   D. $H_2O < NH_3 < BF_3 < SiH_4$

4. The total number of hybridised orbitals in methane molecule is:

A. 8

B. 6

C. 4

D. 5

5. The sum of p orbitals involved in the hybridisation of NH_3 and BF_3 molecules are:

A. 6

B. 5

C. 4

D. 3