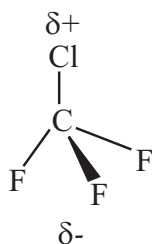
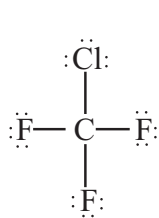
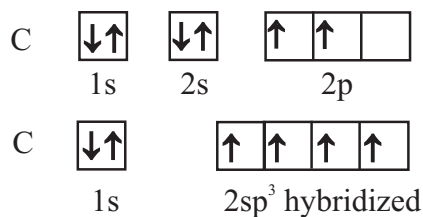
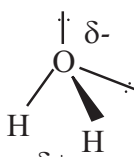
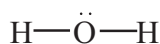
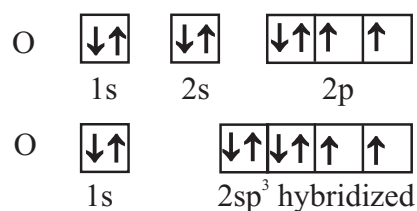
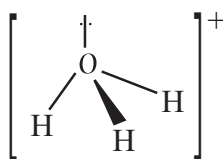
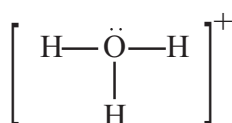


1.  $\text{CF}_3\text{Cl}$ 

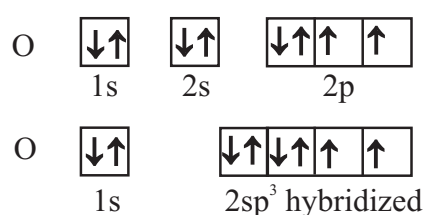
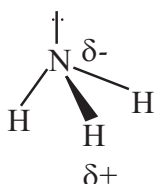
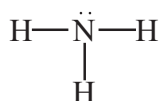
molecular shape: tetrahedral  
polar molecule

2.  $\text{H}_2\text{O}$ 

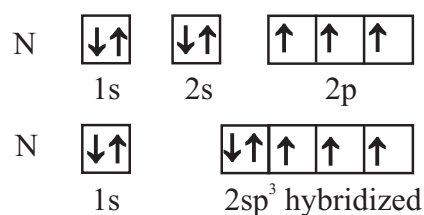
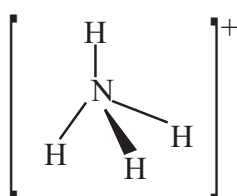
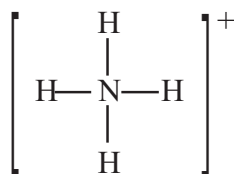
lone pair geometry: tetrahedral  
molecular shape: bent  
polar molecule

3.  $\text{H}_2\text{O}^+$ 

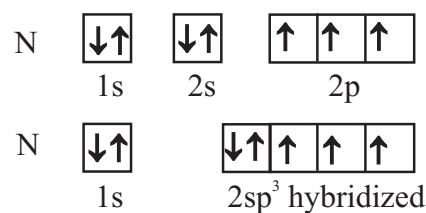
lone pair geometry: tetrahedral  
molecular shape: trigonal pyramidal  
polarity is not applicable

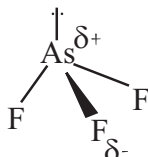
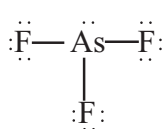
4.  $\text{NH}_3$ 

lone pair geometry: tetrahedral  
molecular shape: trigonal pyramidal  
polar molecule

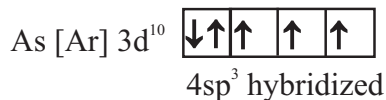
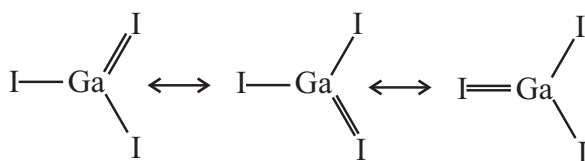
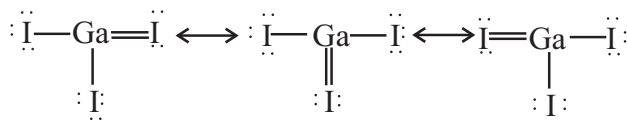
5.  $\text{NH}_4^+$ 

molecular shape: tetrahedral  
polarity is not applicable

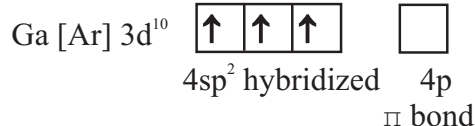
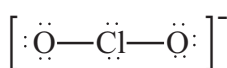


6.  $\text{AsF}_3$ 

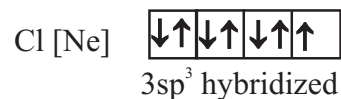
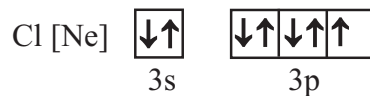
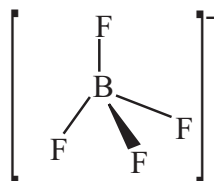
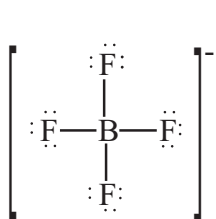
lone pair geometry: tetrahedral  
 molecular shape: trigonal pyramidal  
 polar molecule

7.  $\text{GaI}_3$ 

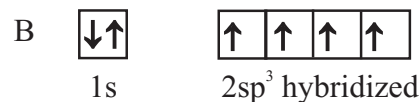
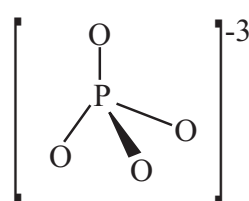
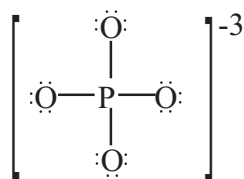
molecular shape: trigonal planar  
 nonpolar molecule

8.  $\text{ClO}_2^-$ 

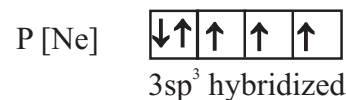
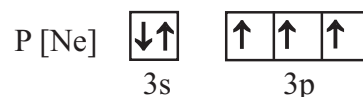
lone pair geometry: tetrahedral  
 molecular shape: bent  
 polarity is not applicable

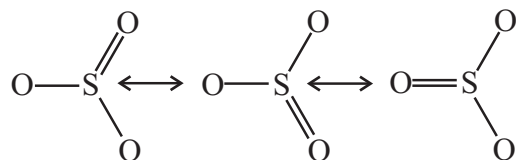
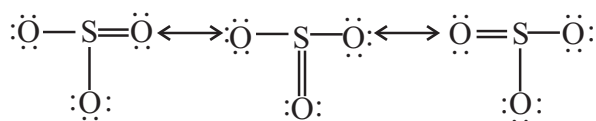
9.  $\text{BF}_4^-$ 

molecular shape: tetrahedral  
 polarity is not applicable

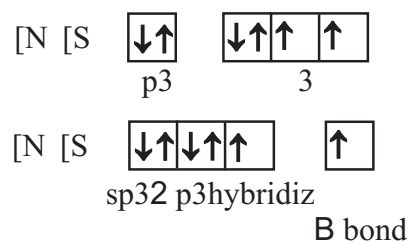
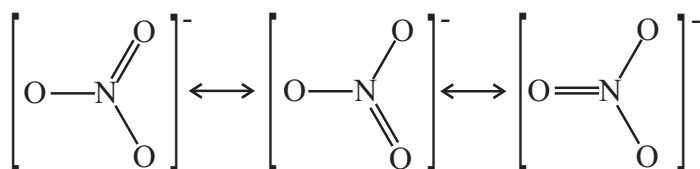
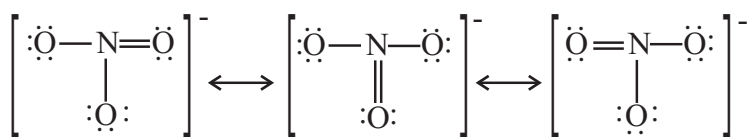
10.  $\text{PO}_4^{3-}$ 

molecular shape: tetrahedral  
 polarity is not applicable

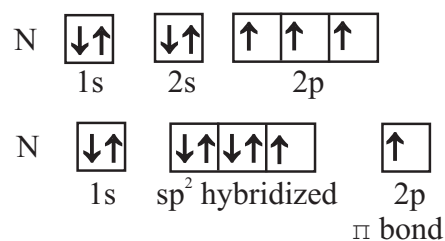
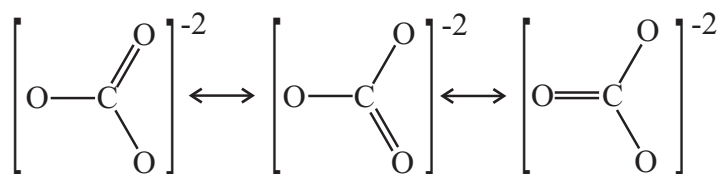
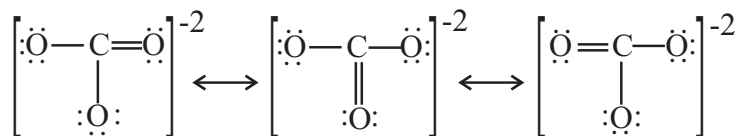


11.  $\text{SO}_3$ 

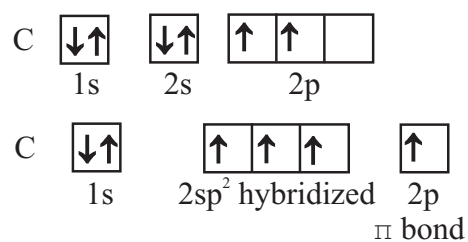
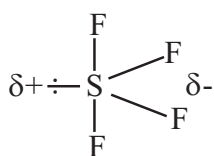
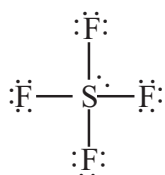
trigonal planar: molecular shape  
nonpolar molecule

12.  $\text{NO}_3^-$ 

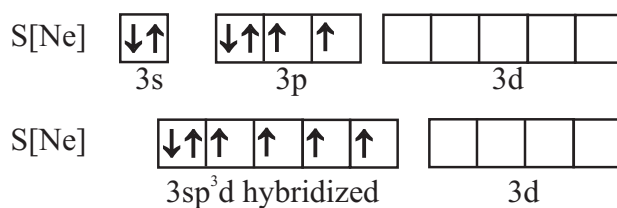
trigonal planar: molecular shape  
polarity is not applicable

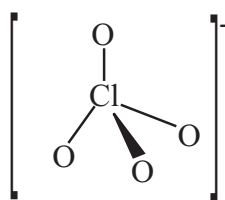
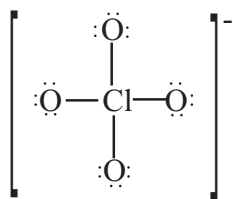
13.  $\text{CO}_3^{2-}$ 

trigonal planar: molecular shape  
polarity is not applicable

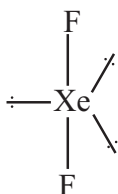
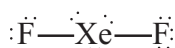
14.  $\text{SF}_4$ 

trigonal bipyramidal: lone pair geometry  
irregular tetrahedral: molecular shape  
polar molecule

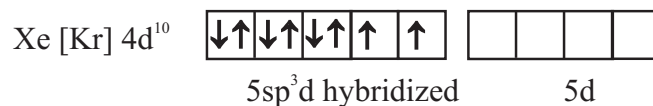
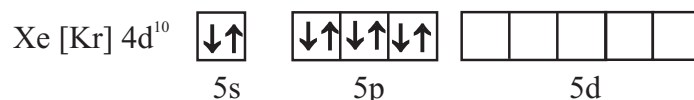
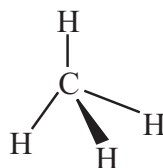
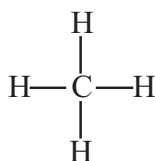


15.  $\text{ClO}_4^-$ 

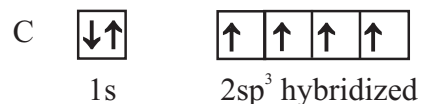
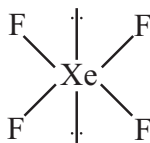
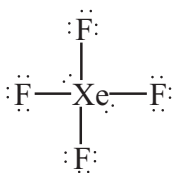
molecular shape: tetrahedral  
polarity not applicable

16.  $\text{XeF}_2$ 

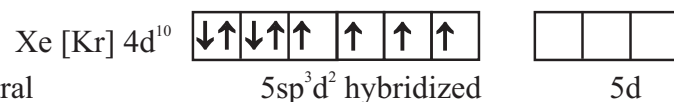
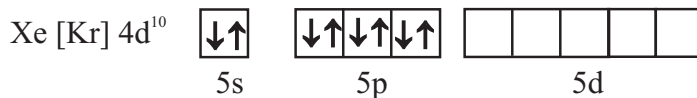
lone pair geometry: trigonal bipyramidal  
molecular shape: linear  
nonpolar molecule

17.  $\text{CH}_4$ 

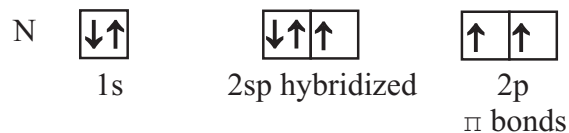
molecular shape: tetrahedral  
nonpolar molecule

18.  $\text{XeF}_4$ 

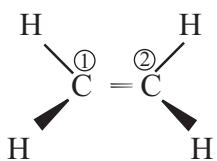
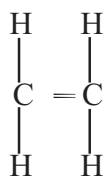
lone pair geometry: octahedral  
molecular shape: square planar  
nonpolar molecule

19.  $\text{N}_2$ 

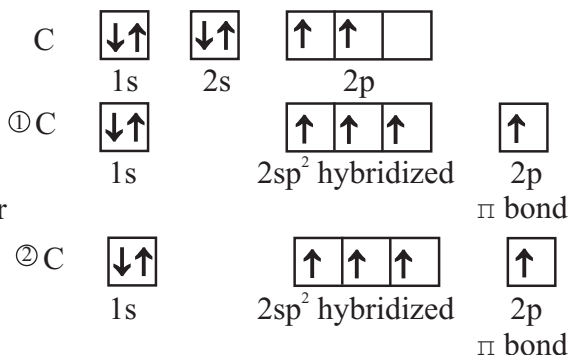
molecular shape: linear  
nonpolar molecule



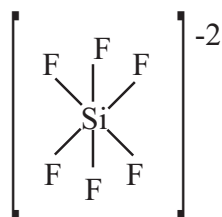
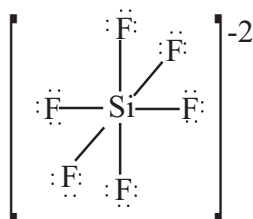
20. C<sub>2</sub>H<sub>4</sub>



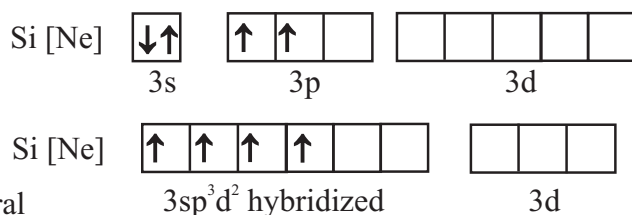
molecular shape about each C: trigonal planar  
nonpolar molecule



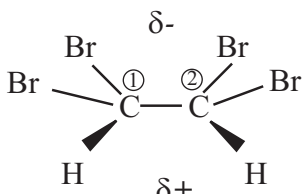
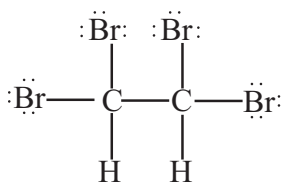
21. SiF<sub>6</sub><sup>-2</sup>



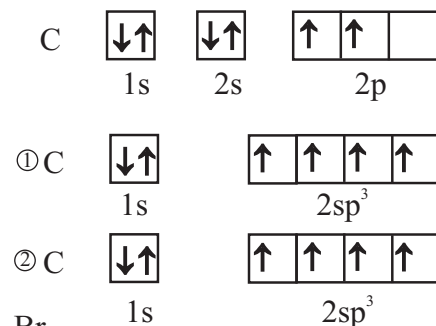
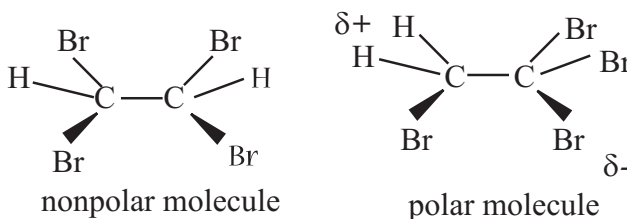
molecular shape: octahedral  
polarity is not applicable



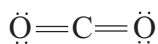
22. C<sub>2</sub>H<sub>2</sub>Br<sub>4</sub>



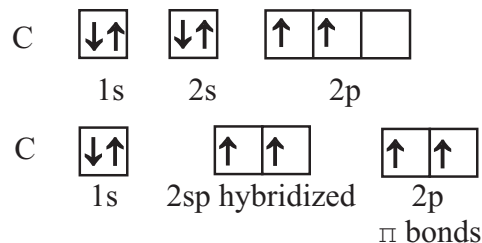
molecular shape about each carbon:  
tetrahedral  
polar molecule



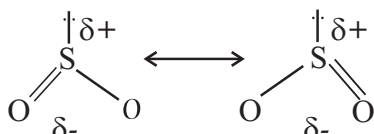
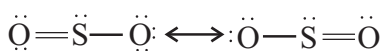
23. CO<sub>2</sub>



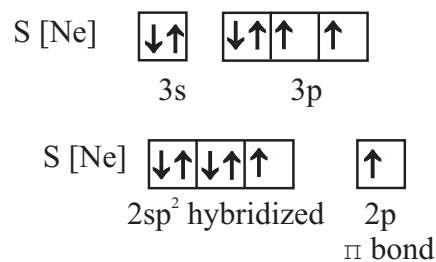
O=C=O  
molecular shape: linear  
nonpolar molecule

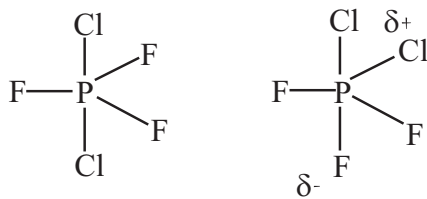
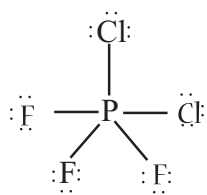


24. SO<sub>2</sub>

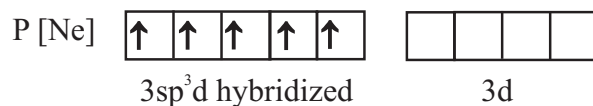
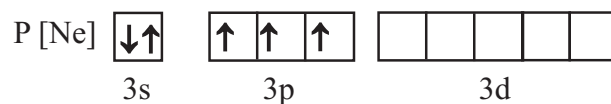


lone pair geometry: trigonal planar  
molecular shape: bent  
polar molecule

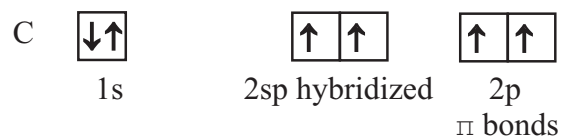
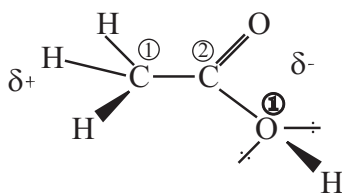
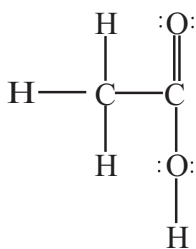


25.  $\text{PCl}_2\text{F}_3$ 

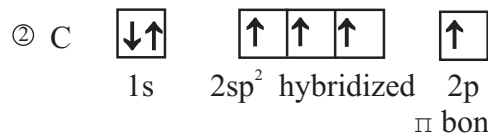
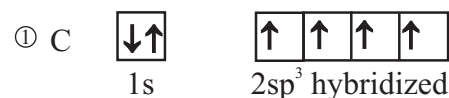
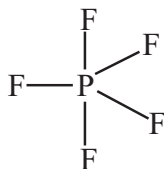
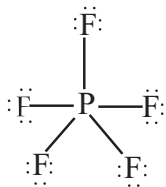
molecular shape: trigonal bipyramidal  
nonpolar molecule      polar molecule

26.  $\text{C}_2\text{H}_2$ 

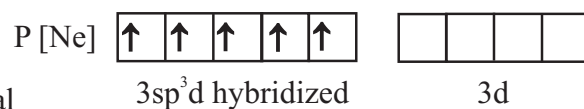
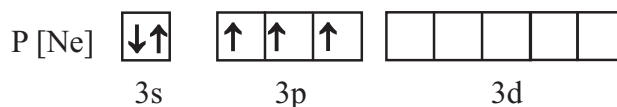
molecular shape: linear  
polar molecule

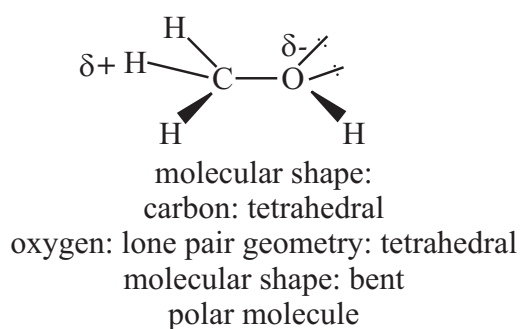
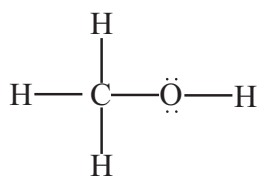
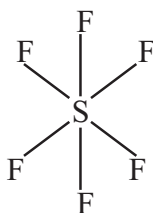
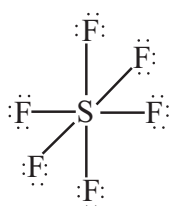
27.  $\text{CH}_3\text{COOH}$ 

molecular shape:  
carbon 1: tetrahedral  
carbon 2: trigonal planar  
oxygen 1: lone pair geometry: tetrahedral  
molecular geometry: bent  
polar molecule

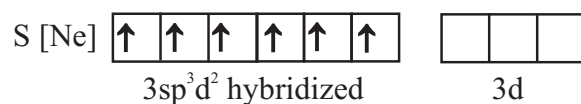
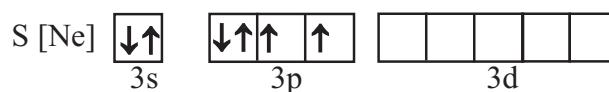
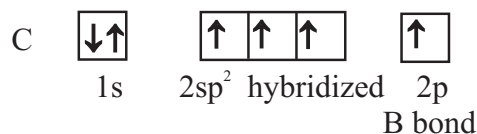
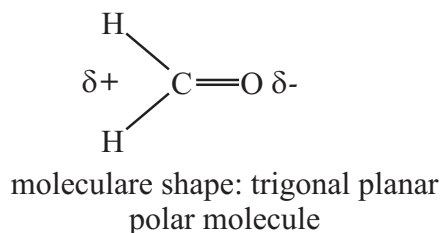
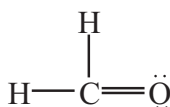
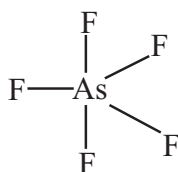
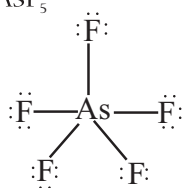
28.  $\text{PF}_5$ 

molecular shape: trigonal bipyramidal  
nonpolar molecule

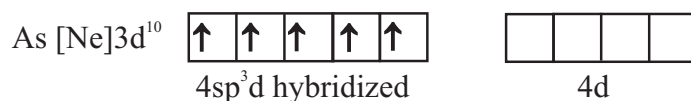
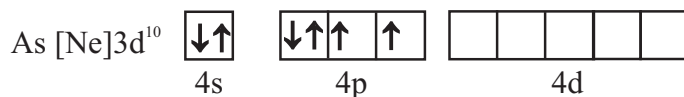


29. CH<sub>3</sub>OH30. SF<sub>6</sub>

molecular shape: octahedral  
nonpolar molecule

31. CH<sub>2</sub>O32. AsF<sub>5</sub>

molecular shape: trigonal bipyramidal  
nonpolar molecule

33. BrF<sub>3</sub>