

- Q.16.** a)What do you mean by formal charge of an atom? Explain with an example.
b)What are isoelectronic species? Give examples.
- Q.17.** What do you mean by hydrogen bonding?Explain its types with suitable examples.
- Q.18.** Although both CO_2 and H_2O are triatomic molecules,the shape of H_2O is bent while that of CO_2 is linear. Explain this on the basis of dipole moment.
- Q.19.** Among the following pairs of orbitals,which orbital will experience the larger effective nuclear charge:
a) 3p and 4s
b) 6s and 4f
c) 3d and 4s

SECTION D (VERY LONG ANSWERS)

- Q.20.** What is meant by the term bond order? Calculate the bond order of: N_2 , He_2 , O_2^+ , and C_2 ?
- Q.21.** 50 kg of N_2 gas and 10 kg of H_2 gas are mixed to produce NH_3 gas. Calculate the ammonia gas formed. Identify the limiting reagent in the production of NH_3 in this situation.