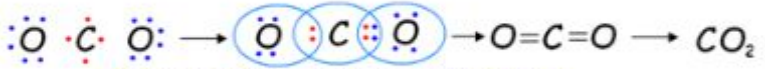
NCERT In Text Solution - part - 1

Question: 1. What would be the electron dot structure of carbon dioxide which has the formula CO_2?

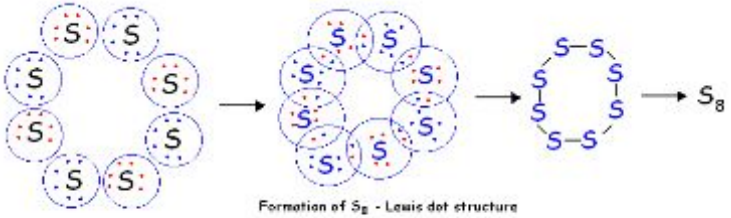
Solution:



Formation of Carbon dioixde - Lewis dot structure

Question: 2. What would be the electron dot structure of a molecule of sulphur which is made up of eight atoms of sulphur? (Hint – The eight atoms of sulphur are joined together in the form of a ring.)

Solution:

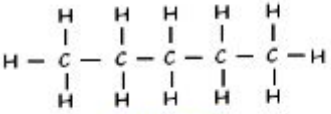


Formation of S_8 - Lewis dot structure

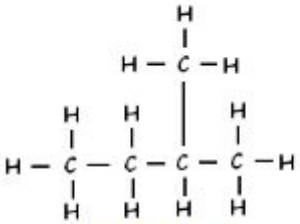
Question: 3. How many structural isomers can you draw for pentane?

Solution:

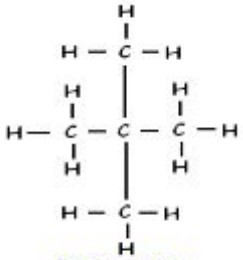
Pentane has three structural isomers. These are n-pentane, Iso-pentane and neo-pentane. Structures of all the three isomers are given here.



n-pentane



Iso-pentane



Neo-pentane

Question: 4. What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?

Solution:

Carbon can form huge number of carbon compounds because of the following properties:

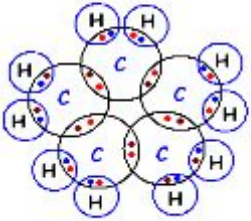
(a) Catenation: Carbon can form bond with other carbon atoms. This property is called catenation. Because of catenation, carbon can form long chains, branched chains and closed chains.

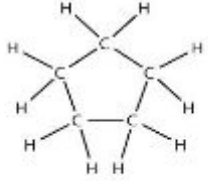
(b) Carbon can form compounds with elements of many other elements.

Question: 5. What will be the formula and electron dot structure of cyclopentane?

Solution:

Formula of cyclopentane is C_5H_{10}





Lewis dot structure of cyclopentane