



## THE GURUKUL INSTITUTE

PLOT 5C, 2ND FLOOR, COMPLEX, SEC-13, OPP. JAIPURIA SCHOOL,  
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### CARBON AND ITS COMPOUNDS

1. Explain Isomerism. State any four characteristics of isomers. Draw the structure of possible isomers of butane  $C_4H_{10}$ .
2. Draw the electron dot structure of  $CH_3Cl$ .
3. Draw the structure of ethanoic acid.
4. What are hydrocarbons?
5. Write the structural difference between saturated and unsaturated hydrocarbons.
6. Write the next higher homologue of the following:
  - a)  $C_3H_6$
  - b)  $C_2H_2$
  - c)  $C_5H_8$
  - d)  $C_3H_7Cl$
  - e)  $HCOOH$
  - f)  $HCHO$
  - g)  $CH_3 - CO - CH_3$ .
7. List two reasons for carbon forming a large number of compounds.
8. How many carbon and carbon hydrogen bonds are present in the following:
  - a)  $C_3H_8$
  - b)  $C_2H_2$
  - c)  $C_2H_4$
9. How would you name the following compounds;
  - a)  $CH_3 - CH_2 - Br$
  - b)  $\begin{array}{c} H \\ | \\ H - C = O \end{array}$
  - c)  $\begin{array}{ccccccccccc} & H & H & H & H & & & & & & \\ & | & | & | & | & & & & & & \\ H & - C & - C & - C & - C & - C & \equiv & C & - H \\ & | & | & | & | & & & & & & \\ & H & H & H & H & & & & & & \end{array}$
10. Ethane with the molecular formula  $C_2H_6$  has how many covalent bonds.
11. Butanone is a four carbon compound with the functional group \_\_\_\_\_ .
12. Draw the electron dot for
  - a) ethanoic acid
  - b)  $H_2S$
  - c) propanone
  - d)  $F_2$
13. What is an homologue series? Explain with an example.
14. What would be the electron dot structure & (covalent) carbon dioxide which has the formula  $CO_2$  and molecule of Sulphur which is made up of eight atoms of Sulphur.
15. How many structural isomers can you draw for pentane.
16. What will be the formula and electron-dot structure of cyclopentane and Benzene.
17. Draw the structure for the following compounds:
  - a) Ethanoic acid
  - b) Bromopentane
  - c) Butanone
  - d) Hexanol
18. What is the structure of ammonia.
19. Classify the following as Alkane, Alkene, Alkyne -  $C_2H_4$ ,  $C_2H_2$ ,  $C_2H_6$ ,  $C_3H_4$ .
20. What are the heteroatoms which are present in  $CH_3 - CH_2 - O - CH_2 - CH_2 - Cl$
21. Give the names of the functional groups:
  - a)  $-CHO$
  - b)  $-C=O$
22. Which are belong to the same homologue series:  
 $C_3H_8$ ,  $C_3H_6$ ,  $C_4H_8$ ,  $C_4H_6$
23. Write the molecular formula of the third member of the homologue series of carbon compound with general formula  $C_nH_{2n+1}OH$ .
24. What are the Allotropes of C. How they are different.
25. (a) Why covalent compounds generally poor conductors of electricity.  
(b) Name Low M.P. & b.P.
26. Why does C form compounds mainly by covalent bonding.

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