

SBOA SCHOOL AND JUNIOR COLLEGE

CHENNAI -101

Std-X

CHEMISTRY ASSIGNMENT – 3

1. Give the general formula of an alkane , alkene and alkyne.
2. Classify the following compounds as alkanes , alkenes and alkynes.
 C_2H_4 , C_3H_4 , C_4H_8 , C_5H_{12} , C_5H_8 , C_3H_8 , C_6H_6 .
3. Give the molecular formula of Butane and mention the names of its two isomers. Name one fuel which contains both the isomers.
4. Write molecular formula and structure of Cyclohexane. How many Covalent bonds are there in a molecule of Cyclohexane ?
5. Write the molecular formula and structure of Benzene.
6. Explain the term 'isomers'. Give one example of isomers.
7. Give one example of hydrocarbon, other than pentane, having more than three isomers.
8. What are Hydrocarbons? Explain with an example.
9. Write the molecular formulae of the third and fifth members of homologous series of carbon compounds represented by the general formula C_nH_{2n-2}
10. Which of the following belong to the same homologous series ?
 C_3H_8 , C_3H_6 , C_4H_8 , C_4H_6
11. Two organic compounds A and B have the same molecular formula C_6H_{12} . Write the names and structural formulae
 - a) If A is a cyclic compound.
 - b) If B is an open chain compound.
 - c) Which compound contain single bond as well as double bonds?
 - d) Which compound contains only single bonds?
12. Which of the following compounds can have triple bond?
 C_2H_4 , C_3H_4 , C_3H_6
13. Give the common name and IUPAC name of the simplest aldehyde.
14. The molecular formula of a hydrocarbon is $C_{10}H_{18}$. Name its homologous series.
15. Select the hydrocarbons which are members of the same homologous series. Give the name of each series.
 C_5H_{10} , C_3H_8 , C_6H_{10} , C_4H_{10} , C_7H_{12} , C_8H_{16}
16. What is the difference in the molecular mass of two adjacent homologous and how many carbon atoms and hydrogen atoms do any two adjacent homologous differ ?
17. Name the functional groups present in the following compounds:-
 - a) CH_3CHO
 - b) CH_3CH_2COOH
 - c) CH_3COCH_3
 - d) $CH_3CH_2CH_2OH$

18. Which functional group is likely to be present in an organic compound having the molecular formula $C_4H_{10}O$? Write the formula of the organic compound?
19. What is the molecular formula and structure of the alcohol which can be derived from pentane?
20. Three organic compounds A , B and C have the following molecular formulae:-
- A - $C_4H_8O_2$
 - B - $C_4H_{10}O$
 - C - C_4H_8O
- a) Which compound contains an alcohol group? Write its name and structural formula?
- b) Which compound contains a carboxyl group? Write its name and structural formula?
- c) Which molecular formula can represent an aldehyde as well as a ketone ? Write the names and structural formula of the aldehyde and ketone represented by this formula.
