

CLASS X
CARBON AND ITS COMPOUNDS
WORKSHEET - 4

1 MARK QUESTIONS

- What is the unique property of carbon atom? How is this property helpful to us?
- Why is graphite a good conductor of electricity but diamond is a non-conductor of electricity?
- Write the electron dot structure for: (1Mark each)

| | | |
|---------------------------------------|--|---|
| (a) Ammonia (NH ₃) | (b) Nitrogen (N ₂) | (c) Ethyne (C ₂ H ₂) |
| (d) Carbon dioxide (CO ₂) | (e) Benzene (C ₆ H ₆) | (f) Cyclopentane |
- The molecular formula of A is C₁₀H₁₈ and B is C₁₈H₃₆. Name the homologous series to which they belong. **(CBSE- 2012)**
- Classify the following compounds as alkanes, alkenes and alkynes.
 C₂H₄ , C₃H₄ , C₄H₈ , C₅H₁₂ , C₅H₈ , C₃H₈

2 MARKS QUESTIONS

- Why carbon forms compounds by sharing of electrons and not by the formation of ions?
- State the meaning of functional group. Write the functional group present in
 (a) Ethanol and (b) Ethanoic acid and also draw their structures. **(DELHI-2014)**
- Draw the structures of the following compounds : **(CBSE-2012)**

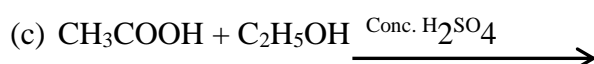
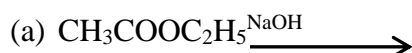
| | | | |
|--------------------|----------------------|---------------|---------------|
| (i) 2-Bromopentane | (ii) 2-methylpropane | (iii) Butanal | (iv) 1-Hexyne |
|--------------------|----------------------|---------------|---------------|
- A hydrocarbon molecule has 3 carbon atoms. Write down its molecular formulae if it is an
 (i) alkene, (ii) alkyne
- How would you name the following compounds : **(CBSE-2012)**

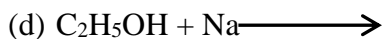
| | |
|---|---|
| (i) CH ₃ -CH ₂ -CHO | (ii) CH ₃ -CHOH-CH ₃ |
| (iii) CH ₃ -CH ₂ -CH ₂ -CH(CH ₃)-CH ₃ | (iv) CH ₃ -CH ₂ -CH=CH ₂ |
- The general formula of a homologous series of carbon compounds is C_nH_{2n}. Write the structures and IUPAC names of the second and fourth member of this series.
- Compare the ability of catenation of Carbon and Silicon. Give reasons.
- What is meant by hydration of ethene? What is the role of sulphuric acid in this reaction? Explain with a chemical equation.

- Explain the cleansing action of water. **(CBSE-2013)**

3 MARKS QUESTIONS

- Complete the following equations. Also name the final products. **(CBSE-2013)**





16. An organic compound with molecular formula $\text{C}_2\text{H}_4\text{O}_2$ produces brisk effervescence on addition of sodium carbonate/bicarbonate.

- Identify the organic compound.
- Name the gas evolved. How will you test this gas?
- Write a chemical equation for the above reaction.
- List two important uses of the above compound.

17. What is an oxidising agent? Name two oxidising agents which can oxidise ethanol to ethanoic acid. Write the equation of the reaction involved.

18. How is that we can use detergents for washing clothes even when the water is hard, but not soap? What change has been made in the composition of the detergents to make them biodegradable?

(CBSE-2012)

19. Differentiate between soaps and detergents.

20. Give reason:

- A mixture of oxygen and ethyne is burnt for welding and not a mixture of ethyne and air.
- Soaps do not work well with hard water.
- Carbon compounds do not conduct electricity?

(CBSE-2012)

21. (a) What is a homologous series of a substance?

(b) In an organic compound, which parts largely determine its physical and chemical properties?

(c) An organic compound burns with a sooty flame. Is it a saturated or an unsaturated hydrocarbon? Give reason.

22. Value based Question:

Most of the children of a school in a village bring parantha and pickle in their tiffin. These children do not share their food with anyone. Some children bring chapati, fruit, curd, salad, vegetable. These children share their food with each other. ?

- Which acid is present in curd and vinegar, used in pickle?
- What class of compound should be present in our diet?
- Which group of children bring healthy food? Give two benefits of this food.
- Which group of children bring unhealthy food? Give two harmful effects.
- Which group of children have better value system and why?