BHARATH COACHING CENTRE

10th CBSE	Carbon and its Compounds	Total: 40
Science		Time: 1.30 hrs

Section – A

5 X 1 = 5

1. What is the common name of propanone?
2. Select the hydrocarbons which are members of the same homologous series. Give the name of the series. C_5H_{10}, C_3H_8, C_6H_{10}, C_4H_{10}, C_7H_{12}, C_8H_{16}
3. The name of unsaturated hydrocarbon.
4. The number of pentagons & hexagons in Buckminister fullerence-an allotrope of carbon.
5. What is the limitation of isomerism in hydrocarbons?

Section – B

10 X 2 = 20

6. Define homologous series.
7. Write the IUPAC name and common name for the following compounds.
   (i) $CH_3 – CH – CH_3$ (ii) $CH_3 – CH_2 - CH – CH_3$
8. Draw the structures of Butanoic acid and Propanoic acid.
9. Give the name and structure of the following Cycloalkanes.(i) Having 4 carbons (ii) Having 6 carbons.
10. What is meant by a functional group? Explain with an example.
11. Mention the possible isomers that can be formed with the molecular formula of C_6H_{14} along with its structure and name.
12. The IUPAC name and common name of C_2H_5Br, HCHO, $CH_3COCH_2CH_2CH_3$.
13. What are hydrocarbons? How it is classified?
14. How can we name a branched-chain hydrocarbon?
15. Why does the element carbon form a large number of carbon compounds?

Section – C

5 X 3 = 15

16. 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 contains single bonds as well as double bond?
    (d) Which compound contains only single bonds?
17. What are the types of organic compounds? Explain.
18. You are given an organic compound having the molecular formula C_3H_8. Give the name and formula of the compound formed:
    (a) When one H atom is replaced by a Cl atom. (b) When one H atom is replaced by OH group.
    (c) When one H atom is replaced by a CHO group. (d) When one H atom is replaced by a COOH group.
19. Three organic compounds A, B, 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 the name and structural formula.
    (c) Which molecular formula can represent an aldehyde as well as a ketone? Write its name and structural formula.
20. What are isomers? How can we name a hydrocarbon?