

Que 1. Draw the structure of CH_3COOH molecule. (1)

Que 2. Draw the structure of ethanol molecules. (1)

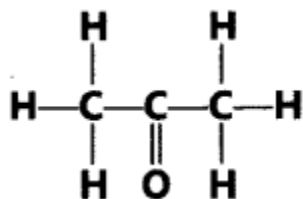
Que 3. What is the difference in the molecular formula of any two consecutive members of a homologous series of organic compounds? (1)

Que 4. Give the names of the following functional groups: (1)

(i) $-\text{OH}$ (ii) $-\text{COOH}$

Que 5. (a) Why are covalent compounds generally poor conductors of electricity? (1)

(b) Name the following compound:



Que 6. What is meant by a saturated hydrocarbon? (1)

Que 7. What is meant by a functional group in an organic compound? Name the functional group present in

(i) $\text{CH}_3\text{CH}_2\text{OH}$

(ii) CH_3COOH

(b) State one point of difference between soap and synthetic detergent. (2)

Que 8. Give reasons for the following observations: (3)

(a) The element carbon forms a very large number of compounds.

(b) Air holes of a gas burner have to be adjusted when the heated vessels get blackened by the flame.

(c) Use of synthetic detergents causes pollution of water.

Que 9. State two characteristic features of carbon which when put together give rise to a large number of carbon compounds. (1)

Que 10. Write the structural formula of chloroethane. (1)

Que 11. Write the name and molecular formula of an organic compound having its name suffixed with '-ol' and having two carbon atoms in the molecule. (1)

Que 12. What is a homologous series? Which two of the following organic compounds belong to the same homologous series? (2)

CH_3 , C_2H_6 , $\text{C}_2\text{H}_6\text{O}$, $\text{C}_2\text{H}_6\text{O}_2$, CH_4O

Que 13. How many covalent bonds are there in a molecule of ethane (C₂H₆)? (1)

Que 14. Explain isomerism. State any four characteristics of isomers. Draw the structures of possible isomers of butane, C₄H₁₀. (3)

Que 15. Give reasons for the following: (5)

(i)Element carbon forms compounds mainly by covalent bonding.

(ii)Diamond has a high melting point.

(iii)Graphite is a good conductor of electricity.

(iv)Acetylene burns with a sooty flame.

(v)Kerosene does not decolourise bromine water while cooking oils do.

Que 16. List in tabular form three physical and two chemical properties on the basis of which ethanol and ethanoic acid can be differentiated? (3)

Que 17. What are hydrocarbons? Write the name and general formula of (i) saturated hydrocarbons, (ii) unsaturated hydrocarbons, and draw the structure of one hydrocarbon of each type. How can an unsaturated hydrocarbon be made saturated? (5)

Que 18. What are detergents chemically? List two merits and two demerits of using detergents for cleansing. State the reason for the suitability of detergents for washing, even in the case of water having calcium and magnesium ions. (3)

Que 19. Differentiate between saturated and unsaturated hydrocarbons. Give one example for each.(2)

Que 20. Diamond and graphite show different physical properties although they are made up of carbon and show the same chemical properties. What is the property called? (2)