

WORKSHEET 1

CHAPTER 12 – ORGANIC CHEMISTRY-I

A. Tick (✓) the correct option.

- What is the molecular formula of propane?
a. CH_4 b. C_2H_6 c. C_3H_8 d. C_4H_{10}
- What is the molecular formula of ethylene?
a. C_2H_4 b. C_2H_2 c. CH_4 d. C_2H_6
- What is the IUPAC name of formic acid?
a. Ethanoic acid b. Methanoic acid c. Butanoic acid d. Propanoic acid
- What is the IUPAC name of ethyl alcohol?
a. Methanol b. Ethanol c. Propanol d. Butanol
- Who divided compounds from natural sources into three categories namely mineral, vegetable and animal?
a. Lavoisier b. Lemery c. Wohler d. Buckminster Fuller

B. Fill in the blanks from the choices given within the brackets.

- Open chain compounds are also called _____ (aliphatic/aromatic) compounds.
- Closed chain compounds are called _____ (cyclic/aliphatic) compounds.
- _____ (Homocyclic/Heterocyclic) is a compound in which the ring comprises only carbon atoms.
- A _____ (heterocyclic compound/homocyclic compound) contains other elements besides carbon in the ring.
- Saturated hydrocarbons are called _____ (paraffins/olifins)

C. Write the IUPAC name of each of the following.

- $\text{H}_3\text{C} - \text{CH} = \text{CH}_2$
- $\text{CH}_3 - \text{CH}_2 - \text{CH} \equiv \text{CH}_2$
- $\text{CH}_3 - \text{C} \equiv \text{CH}$
- $\text{CH}_3 - \text{CH}_2 - \text{C} \equiv \text{CH} - \text{CH}_3$
- $\text{CH}_3 - \text{CH}_2 - \text{CH} = \text{CH}_2$

Name:

Teacher's signature:

Class: X

Date:

D. Match the following.

Compound	Common name
1. CHCl_3	Butyl alcohol
2. CH_3COOH	Acetone
3. $\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2\text{OH}$	Chloroform
4. HCHO	Acetic acid
5. CH_3COCH_3	Formaldehyde

E. Define the following.

1. Catenation
2. Isomerism
3. Aliphatic hydrocarbons
4. Closed chain hydrocarbons
5. Homologous series

ANSWERS

WORKSHEET 1

A. Tick (✓) the correct option.

1. c
2. a
3. b
4. b
5. b

B. Fill in the blanks from the choices given within the brackets.

1. aliphatic
2. cyclic
3. Homocyclic or carbocyclic compound
4. heterocyclic compound
5. paraffins

C. Write the IUPAC name of each of the following.

1. Propene
2. 1-Butyne
3. Propyne
4. 2-Pentyne
5. 1-butene

D. Match the following.

Compound	Common name
1. CHCl_3	Chloroform
2. CH_3COOH	Acetic acid
3. $\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2\text{OH}$	Butyl alcohol
4. HCHO	Formaldehyde
5. CH_3COCH_3	Acetone

E. Define the following.

1. **Catenation:** It is the ability of carbon atoms to bond with themselves to form long chain compounds.
2. **Isomerism:** Organic compounds having the same molecular formula but different structural formula are called isomers and the phenomenon is called isomerism.
3. **Aliphatic hydrocarbons:** Straight chain hydrocarbons are called aliphatic hydrocarbons.
4. **Closed chain hydrocarbons:** Cyclic hydrocarbons are called closed chain hydrocarbons.
5. **Homologous series:** A series of similarly grouped organic compounds called a homologous series. Members of this series differ by $-\text{CH}_2$; they have the same general molecular formula and similar chemical properties.