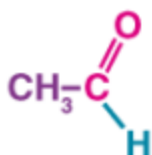


## Nomenclature of Organic Compounds Chemistry Questions with Solutions

**Q1.** The IUPAC name of  $\text{CH}_3\text{CHO}$  is

- (a) Ethanal
- (b) Ethanol
- (c) Acetaldehyde
- (d) Acetone

**Answer:** (a), The IUPAC name of  $\text{CH}_3\text{CHO}$  is Ethanal.



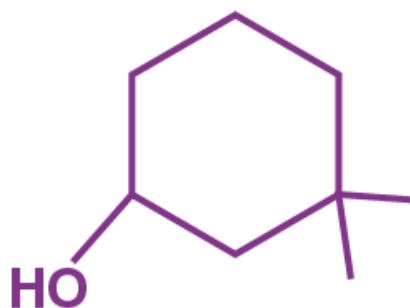
**Ethanal**

**Q2.** The IUPAC name of  $\text{CH}_3\text{-O-C}_2\text{H}_5$  is

- (a) Methoxy ethane
- (b) Ethoxy ethane
- (c) Methyl ethane
- (d) Ethyl ethane

**Answer:** (a), The IUPAC name of  $\text{CH}_3\text{-O-C}_2\text{H}_5$  is Methoxy ethane.

**Q3.** Select the correct IUPAC name for

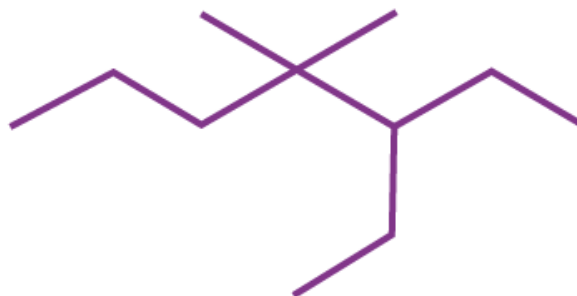


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- (a) 3,3 –dimethyl -3- oxocyclohexane
- (b) 1,1 –dimethyl -3-cyclohexanol
- (c) 3,3- dimethyl -1- cyclo-oxanol
- (d) 1,1- dimethyl -1- cyclo-oxanol

**Answer:** (b), The IUPAC name of aforementioned compound is 1,1 –dimethyl -3-cyclohexanol.

**Q4.** Select the correct IUPAC name for



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- (a) 4-ethyl-3, 3-dimethylheptane
- (b) 4-ethyl-4, 3-dimethylheptane
- (c) 3-ethyl-3, 4-dimethylheptane

(d) 3-ethyl-4, 4-dimethylheptane

**Answer:** (d), The IUPAC name of the aforementioned compound is 3-ethyl-4, 4-dimethylheptane.

**Q5.** The IUPAC name of acetylsalicylic acid is

- (a) 2-acetoxy benzoic acid
- (b) 1-acetoxy benzoic acid
- (c) 4-acetoxy benzoic acid
- (d) 3-acetoxy benzoic acid

**Answer:** (a), The IUPAC name of the compound above is 2-acetoxy benzoic acid.

**Q6.** Dienes are the name given to compounds with \_\_\_\_\_

- (a) One double bond
- (b) Two double bonds
- (c) More than one double bond
- (d) None of the above

**Answer:** (b), Dienes are the name given to compounds with two double bonds.

**Q7.** Identify the smallest alkane which can form a ring structure.

- (a) Ethane
- (b) Cyclo ethane
- (c) Propane
- (d) Cyclopropane

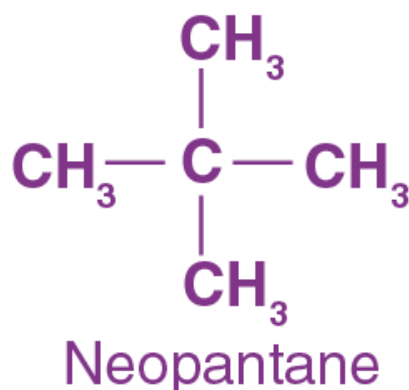
**Answer:** (d), The smallest alkane which can form a ring structure is a cyclopropane.

**Q8.** Select the correct IUPAC name of neopentane.

- (a) 3, 3–dimethylpropane
- (b) 1, 2–dimethylpropane
- (c) 2, 3–dimethylpropane
- (d) 2, 2–dimethylpropane

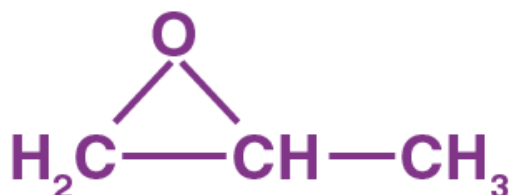
**Answer:** (d), The correct IUPAC name of neopentane is 2, 2–dimethylpropane.

Structure of neopentane:



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**Q9.** Select the correct name of the following compound.



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- (a) 1, 2-epoxy propane
- (b) 2, 2-epoxy propane
- (c) Epoxy propane
- (d) None of the above

**Answer:** (a), The correct name of the above compound is 1, 2-epoxy propane.

**Q10.** Identify the formula of ethanol.

- (a)  $\text{CH}_3\text{CHO}$
- (b)  $\text{CH}_3\text{COCH}_3$
- (c)  $\text{CH}_3\text{CH}_2\text{CHO}$
- (d)  $\text{CH}_3\text{CH}_2\text{OH}$

**Answer:** (d), The correct formula of ethanol is  $\text{CH}_3\text{CH}_2\text{OH}$ .

**Q11.** What is the order of priority of functional groups?

**Answer:** The order of importance of the functional groups in the IUPAC system of nomenclature is Carboxylic Acid > Sulfonic Acid > Esters > Acid Halides > Amides > Cyanides > Aldehyde > Ketones > Alcohols > Amines > Alkynes > Alkenes > Alkanes.

**Q12.** What is a functional group?

**Answer:** A functional group is the group of atoms in a molecule that determines the chemical behaviour of the molecule. It determines the chemical properties of the molecule.

**Q13.** Give examples of a few functional groups along with their formula.

**Answer:** Examples of a few functional groups and their formula are mentioned below.

Carboxylic Acid ( -COOH)

Alcohol ( -OH)

Aldehyde ( -CHO)

Ketone ( -CO-)

Ester ( -COOR)

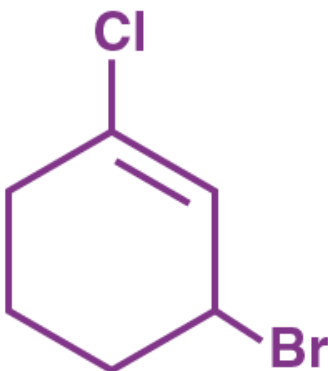
Cyanide ( -CN)

Amide ( -CONH<sub>2</sub>)

Acid Halide ( -COOCl)

Sulfonic Acid ( -SO<sub>3</sub>H)

**Q14.** The IUPAC name of the compound



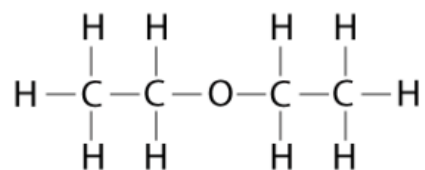
- (a) 3-Bromo-1-chlorocyclohexene
- (b) 1-Bromo-3-chlorocyclohexene
- (c) 3-Bromo-1-chlorohexidine
- (d) 1-Bromo-3-chlorohexidine

**Answer:** (a), The IUPAC name of the compound is 3-Bromo-1-chlorocyclohexene.

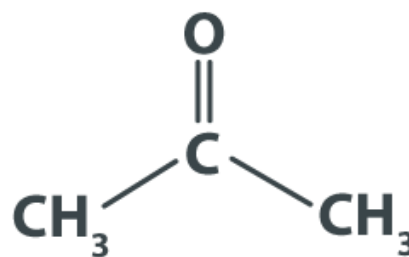
**Q15.** Match the following.

Column 1	Column 2
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**Salicylic Acid**

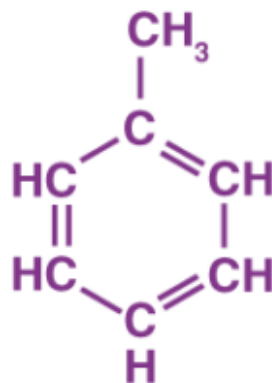


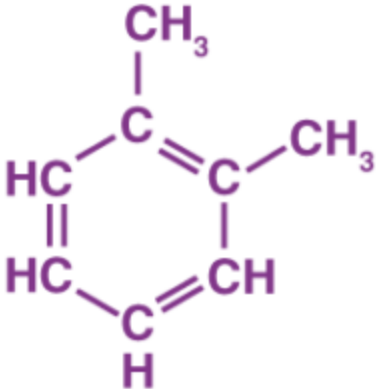
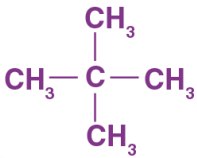
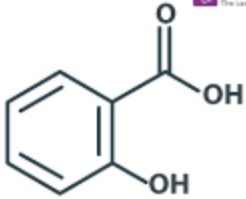
**Neopentane**



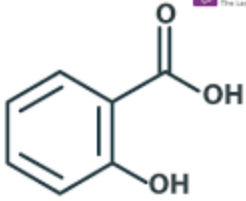
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**o - xylene**



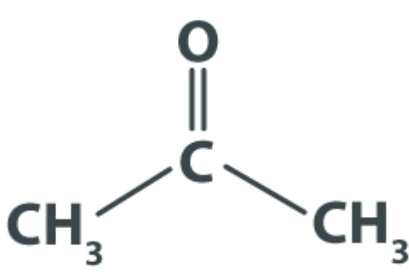
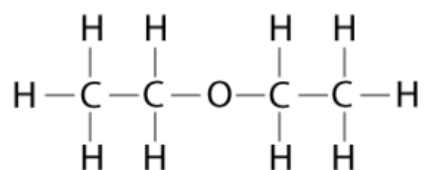
<p><b>Toluene</b></p>	<p><b>BYJU'S</b> The Learning App</p> 
<p><b>Acetone</b></p>	<p><b>BYJU'S</b> The Learning App</p> 
<p><b>Diethyl ether</b></p>	<p><b>BYJU'S</b> The Learning App</p> 

**Answer:**

Column 1	Column 2
<p><b>Salicylic Acid</b></p>	<p><b>BYJU'S</b> The Learning App</p> 

<p><b>Neopentane</b></p>	<p></p> $\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{CH}_3 \\   \\ \text{CH}_3 \end{array}$
<p><b>o - xylene</b></p>	<p></p> $\begin{array}{c} \text{CH}_3 \\   \\ \text{HC} - \text{C} = \text{C} - \text{CH}_3 \\    \quad   \\ \text{HC} \quad \text{CH} \\   \\ \text{C} - \text{H} \end{array}$
<p><b>Toluene</b></p>	<p></p> $\begin{array}{c} \text{CH}_3 \\   \\ \text{HC} - \text{C} = \text{CH} \\    \quad   \\ \text{HC} \quad \text{CH} \\   \\ \text{C} - \text{H} \end{array}$



<p style="text-align: center;"><b>Acetone</b></p>	<p style="text-align: right;"><b>BYJU'S</b> The Learning App</p> <div style="text-align: center;">  </div> <p style="text-align: right;">© Byjus.com</p>
<p style="text-align: center;"><b>Diethyl ether</b></p>	<p style="text-align: right;"><b>BYJU'S</b> The Learning App</p> <div style="text-align: center;">  </div>

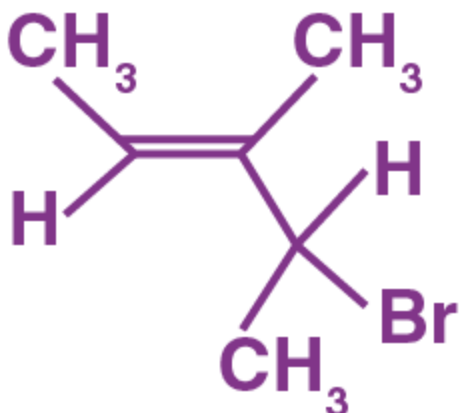
## Practise Questions on Nomenclature of Organic Compounds

**Q1.** What are the rules of nomenclature?

**Answer:** According to the IUPAC, the nomenclature of compounds must obey the below rules:

- The Longest Chain Rule: The parent hydrocarbon chain must be the longest chain.
- The Lowest Set of Locants: It states that the carbon atom which carries the substituents must have the lowest number.
- Multiple instances of the same substituent: Prefix like di tri must be used if the substituent is repeated over again.
- Naming of different substituents: It states that if multiple substituents are present in the organic compounds then they must be named in the alphabetic order.

**Q2.** What is the IUPAC name of the following compound?

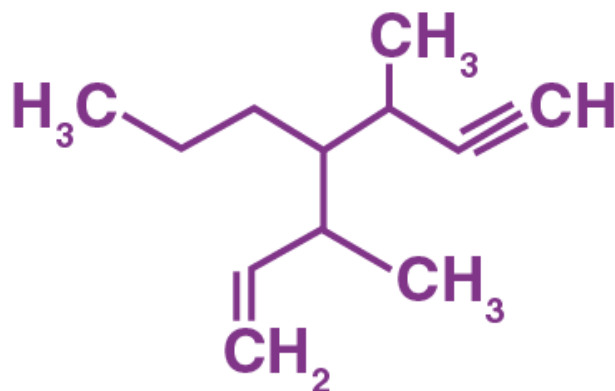


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- (a) 4-Bromo-3-methyl pent-2-ene
- (b) 3-Bromo-4-methyl pent-2-ene
- (c) 3-Bromo-1,2-dimethyl but-1-ene
- (d) 1-Bromo-1,3-dimethyl but-1-ene

**Answer:** The IUPAC name of the following compound is 4-Bromo-3-methyl pent-2-ene.

**Q3.** What is the IUPAC name of the following compound?



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**Answer:** The IUPAC name of the following compound is 3,5-dimethyl-4-propyl hept-1-en-6-yne.

**Q4.** What is the IUPAC name of  $\text{CH}_3\text{C} \equiv \text{N}$ ?

**Answer:** The IUPAC name of the following compound is Ethanenitrile.

**Q5.** What is the IUPAC name of  $\text{CH}_3\text{COOC}_2\text{H}_5$ ?

**Answer:** The IUPAC name of the following compound is Ethyl ethanoate.