




# **CHEMISTRY**


## **BOOKS - MS CHOUHAN CHEMISTRY (HINGLISH)**

### **NOMENCLATURE AND CONFORMATIONS OF ALKANES AND CYCLOALKANES**

**Solved Problems**

1. Prove an IUPAC name for the following alkane. 

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2. Give an IUPAC name for the compound shown. 

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3. Write a structural formula for 7,7-dichlorobicyclo [2,2.1] heptane.

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4. Give an IUPAC name for the molecule shown.



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5. Consider each of the following conformational structures and tell whether each is cis or trans: 

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6. Write the structures of three pentenes that would all yield pentane on hydrogenation.

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## Additional Objective Questions Single Correct Choice Type

1. Identify the correct IUPAC name.

A. 2,2-Dimethyl-4-ethyl heptane

B. 5-Ethyl-2-methyl hexane

C. 1,3-Dimethyl butane

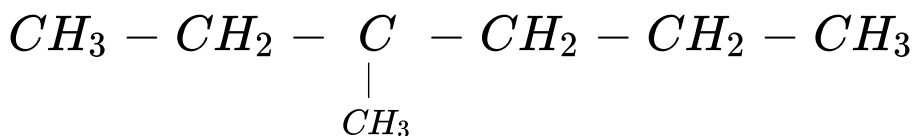
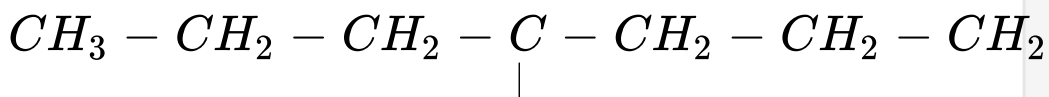
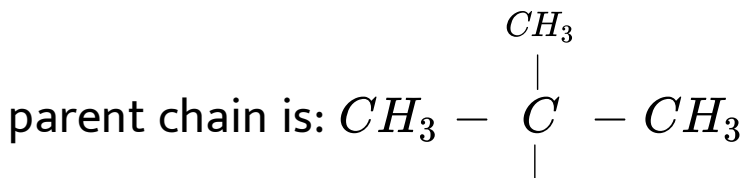
D. 3-Ethyl-1, 1-dimethyl cyclohexane

**Answer: D**



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2. Total number of carbon atoms present in



A. 5

B. 6

C. 7

D. None of these

**Answer: D**



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**3.** Give the name of the compound:



- A. 2,2-Dimethyl-4-chloro butane
- B. 1-Chloro-3,3-dimethyl butane
- C. 4-Chloro-2,2-dimethyl butane
- D. None of these

**Answer: C**



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4. The compound which has one isopropyl group is

A. 2,2,3,3-tetramethyl pentane.

B. 3,3-dimethyl pentane.

C. 2,2,3-trimethyl pentane.

D. 2-methyl pentane.



**Answer: D**



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5. Among the butane conformers, which occur at energy minima on a graph of potential energy versus dihedral angle?

- A. Gauche only
- B. Eclipsed and totally eclipsed
- C. Gauche and anti
- D. Eclipsed only

**Answer: C**



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6. Which of the Newman projections shown below represents the most stable conformation about the C1-C2 bond of 1-iodo-2-methyl propane?

A. 

B. 

C. 

D. 

**Answer: C**

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7. Which structure represent 1,4-dichlorohex-3-en-1-yne?

A. 

B. 

C. 

D. 

**Answer: B**

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**8. How many carbons in triaheptacontane?**

A. 73

B. 37

C. 703

D. 370

**Answer: A**



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9. Which of the following structures represents 2-bromo-6-isobutyl-4-methyldec-3-en-1-ol?

A. 

B. 

C. 

D. 

**Answer: D**



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**10.** Which represent the chair structure of the following with both groups axial?

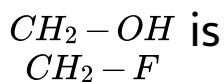


**Answer: B**



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**11. Most stable conformer of compound**



**Answer: B**



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**12.** Most stable form of meso-2, 3-difluoro-2, 3-butandiol (across C2-C3 bond) is

A. 

B. 

C. 

D. 



**Answer: C**



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**13.** Which of the following isomers of the formula  $C_8H_{14}$  would you expect to give the highest heat of combustion?

A. 

B. 

C. 

D. 

**Answer: C**



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**14.** The IUPAC name of neo-pentane is

- A. 2-methylbutane
- B. 2,2-dimethylpropane
- C. 2-methylpropane
- D. 2,2-dimethylbutane

**Answer: D**



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15. Which of the following equilibrium is not rapid at room temperature

A. 

B. 

C. 

D. 

**Answer: C**



## Additional Objective Questions Mcq

1. Which of the following common names and IUPAC names is/are correctly matched?

- A. t-Butyl alcohol and 2-methyl-2-propanol
- B. s-Butyl alcohol and 1-methyl-1-propanol
- C. iso-Butyl alcohol and 2-methyl-1-propanol

D. neo-Pentyl alcohol and 2,2-dimethyl-1-propanol

**Answer: A,C**



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