

Test bank chapters (24 & 25)Choose the correct answer

1. C<sub>10</sub>H<sub>22</sub> is the formula of an ....

- a) **alkane.**
- b) alkene.
- c) alkyne.
- d) aromatic hydrocarbon.

2. A molecule with the formula C<sub>3</sub>H<sub>8</sub> is a

- a) hexane
- b) **propane**
- c) decane
- d) butane

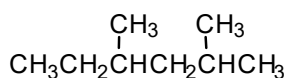
3. Which compound below does not have geometric isomers (cis-trans isomers)?

- a) **1-butene**
- b) 2-butene
- c) 2-pentene
- d) 3-hexene

4. The hybridization of carbon atoms in alkanes is

- a) sp
- b) sp<sup>2</sup>
- c) **sp<sup>3</sup>**
- d) sp<sup>3</sup>d

5. Select the correct IUPAC name for



- a) 1,1,3-trimethylpentane
- b) 1-ethyl-1,3-dimethylbutane
- c) **2,4-dimethylhexane**
- d) 3,5-dimethylhexane.

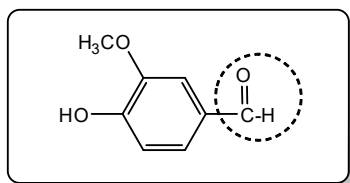
6 - An alkane with seven carbon atoms in a linear configuration is called a

- a) hexene
- b) heptene
- c) heptylpane
- d) **heptane**

7. Which type of functional group does not include a carbonyl group in its structure?

- a) carboxylic acid
- b) ether
- c) ketone
- d) aldehyde

8. Vanillin is used as a flavoring agent. Identify the functional group circled.



- a) aldehyde
- b) ketone
- c) carboxylic acid
- d) Alcohol

9. The formula ( $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ ) represents:

- a) an alcohol
- b) an alkene
- c) an alkyne
- d) an unsaturated hydrocarbon

10. Which of the following is a ketone?

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

11. The general formula for *alkenes* is

- a)  $\text{C}_n\text{H}_{2n+2}$
- b)  $\text{C}_{2n}\text{H}_{2n}$
- c)  $\text{C}_n\text{H}_{n+2}$
- d)  $\text{C}_n\text{H}_{2n}$

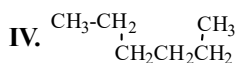
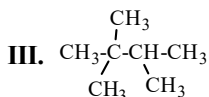
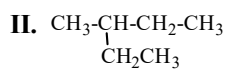
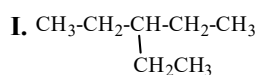
12. Which of these molecules is *unsaturated*?

- a)  $\text{C}_3\text{H}_8$
- b)  $\text{CH}_3\text{OH}$
- c)  $\text{C}_5\text{H}_{10}$
- d)  $\text{CH}_4$

8. Which of these species is an aromatic compound?

- a)  $C_2H_2$
- b)  $C_6H_{12}$
- c)  $C_6H_4Br_2$
- d)  $C_5H_{10}$

9. Which of these species are *structural isomers* of  $C_6H_{14}$ ?

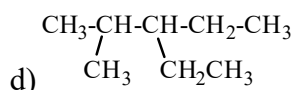
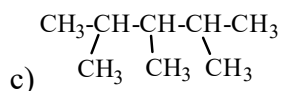
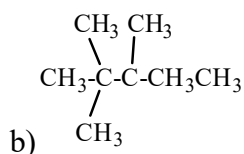
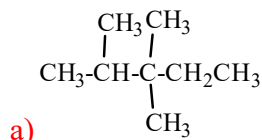


- a) I and II
- b) I and III
- c) II and III
- d) II and IV

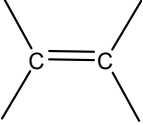
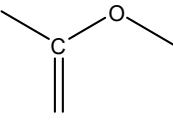
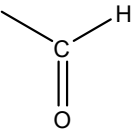
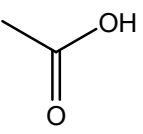
10. The compound that has a triple bond between one pair of carbon atoms is called

- a) an alkane.
- b) a chlorofluorocarbon.
- c) an alkyne.
- d) an alkene.

11. The correct structure for 2,3,3-trimethylpentane is



12. Which one of these structures represents an *ester* functional group?

- a) 
- b) 
- c) 
- d) 

13. The functional group (RCOR) is characteristic of organic \_\_\_\_\_

- a) ketones  
b) acids  
c) aldehydes  
d) esters

14. Which of the following hydrocarbons does not have isomers?

- a)  $C_7H_{16}$   
b)  $C_6H_{14}$   
c)  $C_5H_{10}$   
d)  $C_3H_8$

15. Which of the following does NOT exhibit geometric isomerism? (Hint: draw them!)

- a) 4-octene  
b) 2-pentene  
c) 3-hexene  
d) 1-hexene

16. A protein is:

- a) a polymer of amino acids
- b) a fatty acid ester of glycerol
- c) a polysaccharide
- d) an addition polymer

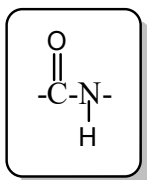
17. A peptide bond (also called an amide bond) joins two amino acids together. What atoms are linked by this bond?

- a) C — O
- b) C — H
- c) C — N
- d) N — S

18. An amino acid is a compound that contains at least

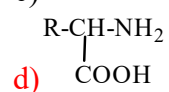
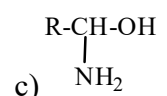
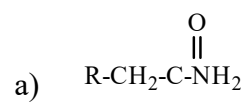
- a) one amino group and one amide group.
- b) two amino groups and one carboxylic acid group.
- c) one hydroxyl group and one methyl group.
- d) one carboxylic acid group and one amino group

19. The functional group found in proteins is called a (an)



- a) amide.
- b) carboxylic acid.
- c) amine.
- d) amino acid.

20. Which one of these choices is the general structural formula of an amino acid?



21. Which one of these structures represents a ketone functional group?

