

1. Which chemical formula is both an empirical formula and a molecular formula?

A. CH₄

B. C₂H₆

C. CH₃COOH

D. CH₃CH₂COOCH₃

2. Which element is present in all organic compounds?

A. Hydrogen

B. Nitrogen

C. Carbon

D. Oxygen

3. What products are obtained with CH₄(g) burns completely in an excess of oxygen?

A. CO and H₂O

B. CO and C

C. CO₂ and H₂O

D. CO₂ and CO

4. Which hydrocarbon is a member of the alkene series?

- A. C₂H₂
- B. C₃H₆
- C. C₄H₁₀
- D. C₄H₁₂

5. Which formula represents butane?

- A. CH₃CH₃
- B. CH₃CH₂CH₃
- C. CH₃CH₂CH₂CH₃
- D. CH₃CH₂CH₂CH₂CH₃

6. A hydrocarbon molecule is considered to be saturated if the molecule contains

- A. Single covalent bonds, only
- B. A double covalent bond, only
- C. A triple covalent bond
- D. Single and double covalent bonds

7. As a chemical bond forms between 2 hydrogen atoms in a system, energy is released and the stability of the system

- A. Increases
- B. Decreases
- C. Remains the same

8. In a chemical reaction, as the species is oxidized, its oxidation number

- A. Decreases
- B. Increases
- C. Remains the same

9. A hydrocarbon with no ring structure, no double or triple bonds is called an _____.

- A. Alkene
- B. Alkyne
- C. Alkane
- D. Alkali

10. A hydrocarbon double bonds and no triple bond configuration is called an _____.

- A. Alkene
- B. Alkyne
- C. Alkane
- D. Alkali

11. A hydrocarbon with triple bonds is called an _____

- A. Alkene
- B. Alkyne
- C. Alkane

D. Alkali

12. Which of the following is the molecular formula for ethylene?

A. C₂H₂

B. C₂H₄

C. C₂H₆

D. C₂H₈

13. Which of the following is the molecular formula for ethane?

A. C₂H₂

B. C₂H₄

C. C₂H₆

D. C₂H₈

14. Which of the following is the molecular formula for acetylene?

A. C₂H₂

B. C₂H₄

C. C₂H₆

D. C₂H₈

15. Which of the following is the molecular formula for butane?

- A. C₂H
- B. C₂H₆
- C. C₄H₈
- D. C₄H₁₀

16. Which of the following is the molecular formula for hexane?

- A. C₅H₁₁
- B. C₅H₁₂
- C. C₆H₁₂
- D. C₆H₁₄

17. Which of the following is the molecular formula for pentane?

- A. C₅H₁₁
- B. C₅H₁₂
- C. C₆H₁₂
- D. C₆H₁₄

Answer Key

- 1. A
- 2. C
- 3. C
- 4. B
- 5. C

6. A

7. A

8. B

9. C

10. A

11. B

12. B

13. C

14. A

15. D

16. D

17. B