



# Organic Chemistry Multiple Choice Questions

## Set 5 (Chemistry Only)

You may use a periodic table to help you answer these questions.

Tick **one** box.

1. Which of these compounds is an alkene?

A.  $\text{CH}_2$  ☐

B.  $\text{C}_2\text{H}_6$  ☐

C.  $\text{C}_4\text{H}_8$  ☐

D.  $\text{C}_6\text{H}_{14}$  ☐

2. Which is a correct, balanced equation for the complete combustion of propanol?

A.  $\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$  ☐

B.  $\text{C}_3\text{H}_7\text{OH} + 4\text{O}_2 \rightarrow 3\text{CO} + 4\text{H}_2\text{O}$  ☐

C.  $\text{C}_3\text{H}_7\text{OH} + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$  ☐

D.  $2\text{C}_3\text{H}_7\text{OH} + 9\text{O}_2 \rightarrow 6\text{CO}_2 + 8\text{H}_2\text{O}$  ☐

3.  $\text{CH}_3\text{COOH}$  is the structural formula of which substance?

A. ethane oxide ☐

B. ethanoic acid ☐

C. ethanol ☐

D. ethyl ethanoate ☐

4. Alcohols can be produced by fermentation of sugars. Which of the following conditions is **not** necessary for the fermentation process?

A. absence of light ☐

B. absence of oxygen ☐

C. the sugar is dissolved in water ☐

D. temperature of approximately  $30^\circ\text{C}$  ☐

5. Which of these substances would react with sodium carbonate to produce carbon dioxide?

A. ethanol ☐

B. ethyl ethanoate ☐

C. methane ☐

D. propanoic acid ☐



6. Which of the following is **not** an example of a natural polymer?
- A. amino acid ☐
  - B. cellulose ☐
  - C. DNA ☐
  - D. starch ☐
7. Organic compound X has a fruity smell and is formed in the reaction between methanol and propanoic acid. Which homologous series does compound X belong to?
- A. alcohol ☐
  - B. alkane ☐
  - C. carboxylic acid ☐
  - D. ester ☐
8. What is a nucleotide?
- A. a monomer of DNA ☐
  - B. a monomer of cellulose ☐
  - C. a polymer made of amino acids ☐
  - D. a polymer made of starch ☐
9. Which two functional groups does an amino acid molecule contain? **(HT Only)**
- A.  $C \equiv C$  and  $-COO-$  ☐
  - B.  $-NH_2$  and  $-OH$  ☐
  - C.  $-NH_2$  and  $-COOH$  ☐
  - D.  $-OH$  and  $-COOH$  ☐
10. Are carboxylic acids strong acids or weak acids? Why? **(HT Only)**
- A. strong, because they fully dissociate into their ions ☐
  - B. strong, because they have a high pH ☐
  - C. weak, because they have a low pH ☐
  - D. weak, because they only partially dissociate into their ions ☐