

14.4 Alkanes

Question Paper

Level	IGCSE
Subject	Chemistry (0620)
Exam Board	Cambridge International Examinations (CIE)
Topic	Organic Chemistry
Sub-Topic	14.4 Alkanes
Booklet	Question Paper

Time Allowed: 12 minutes

Score: /10

Percentage: /100

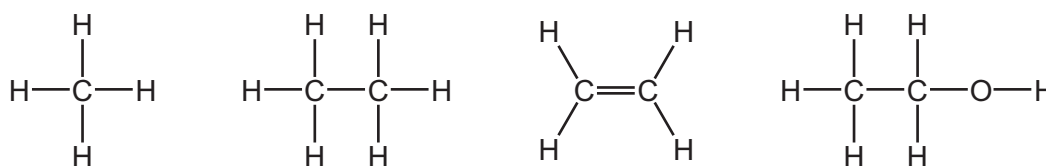
Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1 Which formula is that of an alkene?

- A** C_2H_6 **B** C_3H_6 **C** C_3H_8 **D** C_4H_{10}

2 The structures of four organic compounds are shown.



Which statement is **not** correct?

- A** Only one of the compounds is an alcohol.
B Only one of the compounds is an alkane.
C Only one of the compounds is unsaturated.
D Only three of the compounds are hydrocarbons.

3 Which statement about alkane molecules is correct?

- A** They burn in oxygen.
B They contain carbon, hydrogen and oxygen atoms.
C They contain double bonds.
D They contain ionic bonds.

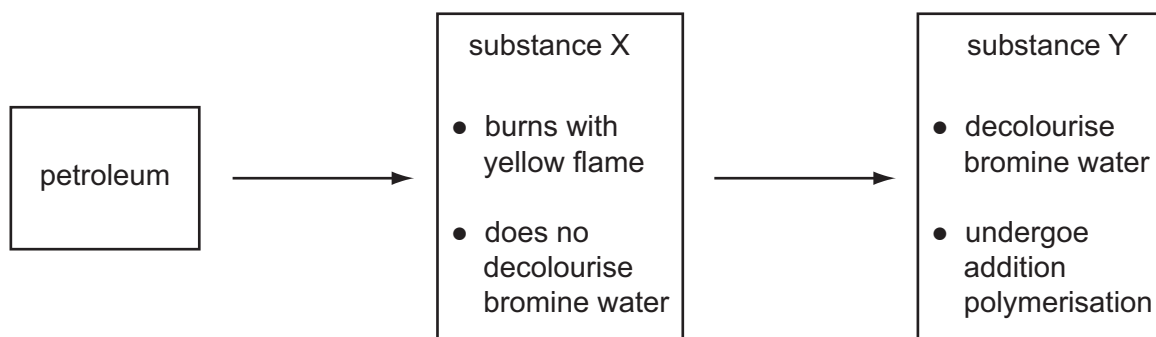
4 Which statement about alkanes is correct?

- A** Ethane has one more carbon atom and one more hydrogen atom than methane.
B They are converted to alcohols by reaction with steam.
C They contain carbon-carbon double bonds.
D They form carbon dioxide and water on combustion.

5 Which substance is methane?

	volatility	electrical conductivity at room temperature	solubility in water
A	high	good	soluble
B	high	poor	insoluble
C	low	good	soluble
D	low	poor	insoluble

6 The diagram shows a flow diagram.



Which type of organic compounds are X and Y?

	substance X	substance Y
A	alcohol	alkane
B	alkane	alkene
C	alkene	alkane
D	alkane	alcohol

7 Which columns describe the hydrocarbons ethane and ethene?

	1	2	3	4
state at room temperature	gas	gas	liquid	liquid
reaction with oxygen	burns	burns	burns	burns
reaction with aqueous bromine	no reaction	decolourises bromine	no reaction	decolourises bromine

- A 1 (ethane) and 2 (ethene)
- B 1 (ethane) and 4 (ethene)
- C 2 (ethene) and 3 (ethane)
- D 3 (ethane) and 4 (ethene)

8 Which equation represents incomplete combustion of ethane?

- A $C_2H_6 + O_2 \rightarrow 2CO + 3H_2$
- B $C_2H_6 + 2O_2 \rightarrow 2CO_2 + 3H_2$
- C $2C_2H_6 + 5O_2 \rightarrow 4CO + 6H_2O$
- D $2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O$

9 What is the main constituent of natural gas?

- A carbon dioxide
- B ethane
- C hydrogen
- D methane

10 The table shows the formulae of members of the alkane series.

name of compound	formula
methane	CH_4
ethane	C_2H_6
propane	?
butane	C_4H_{10}
pentane	C_5H_{12}

What is the formula of propane?

