

O Level Pure Chemistry MCQs

Fractional Distillation of Crude Oil Test 1.0

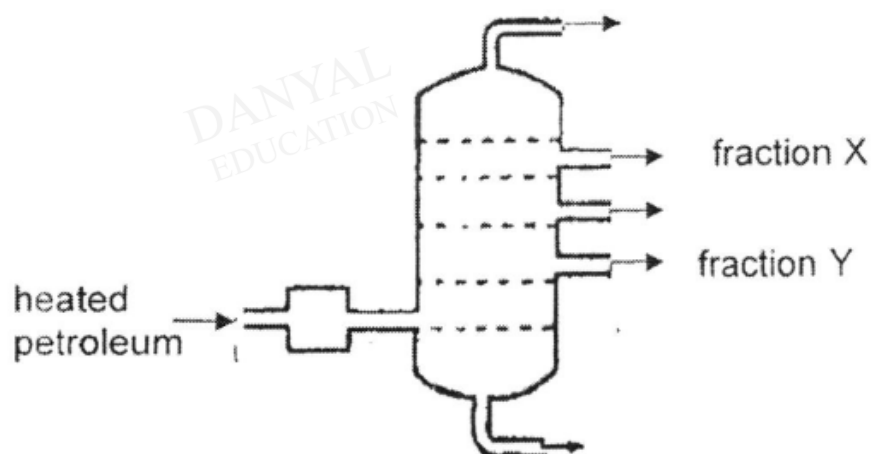
Q1

Which correctly matches the crude oil fraction to its use?

	fraction	use
A	bitumen	chemical feedstock
B	diesel	paving road surfaces
C	naphtha	fuel for cooking
D	paraffin	aircraft fuel

Q2

The diagram shows the fractional distillation of petroleum.



Which statements about fractions X and Y are correct?

	X is more flammable than Y	X burns with a less sooty flame than Y	X is more viscous than Y
A	Yes	No	No
B	Yes	Yes	No
C	No	Yes	Yes
D	No	No	Yes

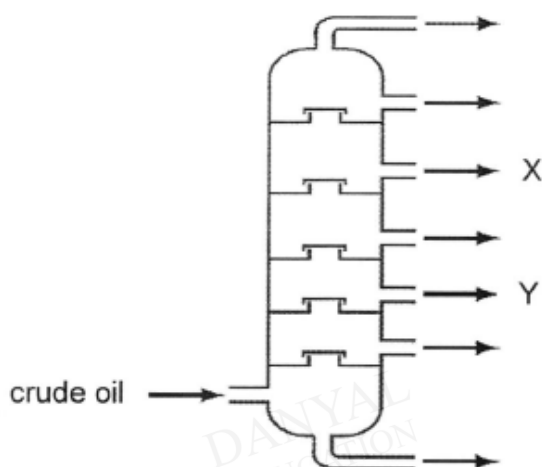
Q3

In the fractional distillation of crude oil, bitumen is collected at the bottom of the fractionating column. This is because

- A it is the first substance to condense from a gas to a liquid in the column.
- B it was never vaporized in the heating chamber.
- C bitumen is a substance that has little or no commercial value.
- D bitumen is not flammable.

Q4

Crude oil can be separated into different fractions using fractional distillation. The positions at which fractions X and Y are collected are shown in the diagram.



Which statement about the fractional distillation of crude oil is correct?

- A The temperature increases up the column.
- B X condenses at a lower temperature than Y.
- C X has a higher boiling point than Y.
- D X has longer chain molecules than Y.

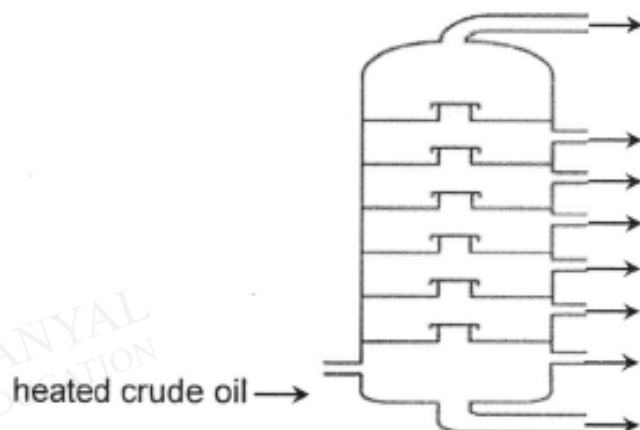
Q5

Which is the correct use of the different fractions in crude oil?

	fraction	use
A	bitumen	lubricating machine parts
B	kerosene	fuel for aircraft
C	naphtha	pave road
D	petrol	making chemicals

Q6

The diagram shows the apparatus used for the fractional distillation of petroleum.



Which statement about the fractional distillation of petroleum is correct?

- A At each level, only one compound is collected.
- B The higher up the column, the greater the temperature.
- C The molecules collected at the bottom of the column are the least flammable.
- D The molecules reaching the top of the column have the highest viscosity.

Q7

In how many of the following is kerosene used as the energy source?

aircraft	cars	domestic cooking	power stations
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- A 1
- B 2
- C 3
- D 4

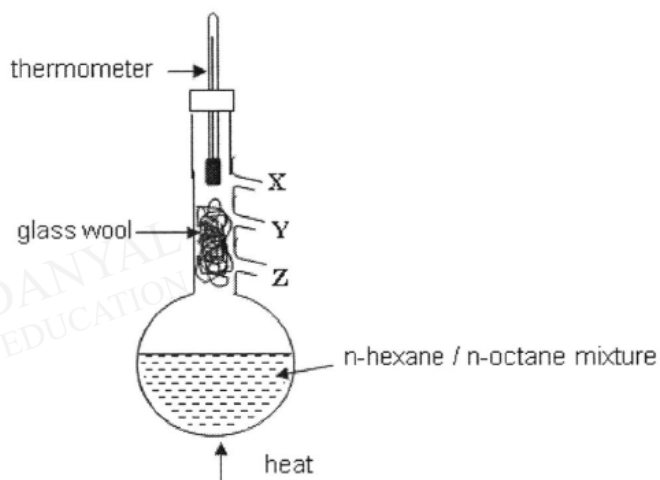
Q8

Which fraction contains the smallest molecules?

- A bitumen
- B kerosene
- C lubricating oil
- D naphtha

Q9

A mixture of n-hexane (boiling point 69°C) and n-octane (boiling point 126°C) is heated in a fractional apparatus as shown in the diagram. Fractions are drawn off at the points labelled X, Y and Z.



Compared with the fractions drawn off at Y and Z, the fraction drawn off at X is likely to have

- A the highest boiling point and the highest proportion of n-hexane.
- B the highest boiling point and the lowest proportion of n-hexane.
- C the lowest boiling point and the highest proportion of n-hexane.
- D the lowest boiling point and the lowest proportion of n-hexane.

Q10

Crude oil is a mixture of chemicals.

Which of the following statements indicates that crude oil is a mixture?

- A It is a thick, dark coloured liquid which is less dense than water.
- B It is made from the remains of animals that lived long ago.
- C It can be separated into useful materials for the chemical industry.
- D It is found deep underground.

Answers

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Q1 D

Q2 B

Q3 B

Q4 B

Q5 B

Q6 C

Q7 B

Q8 D

Q9 C

Q10 C

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