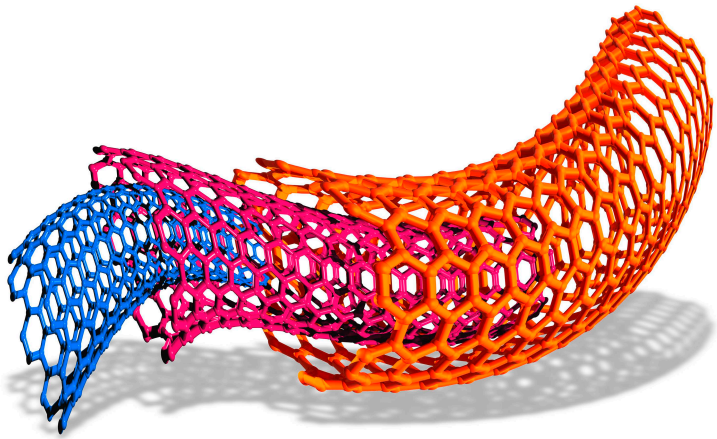
Cambridge Assessment International Education

Interactive

Interactive Example Candidate Responses

Paper 6 (May / June 2016), Question 1

Cambridge IGCSE™
Chemistry 0620



Version 2.0

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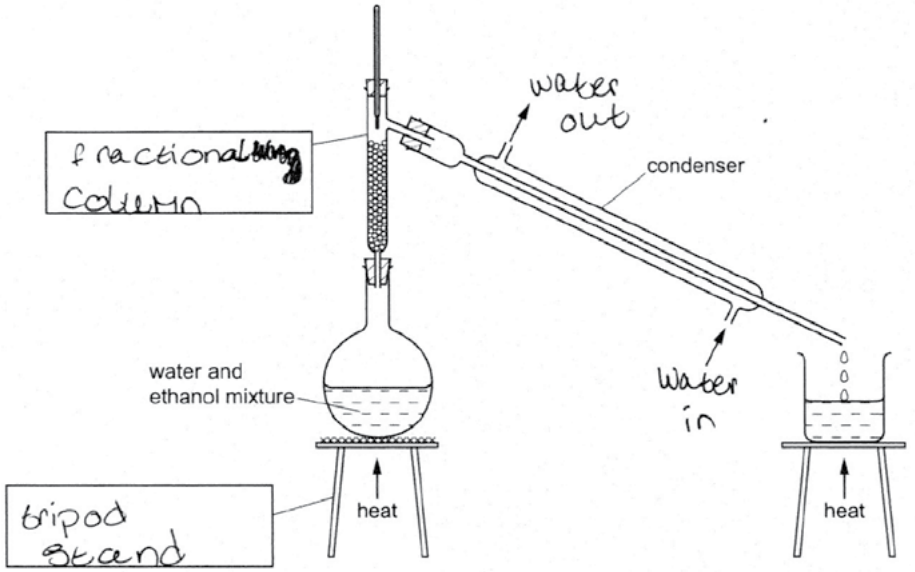
Select page

HIGH | MIDDLE | LOW

1 The diagram shows the apparatus used to separate a mixture of water, boiling point 100 °C, and ethanol, boiling point 78 °C.



(a) Complete the boxes to name the apparatus. [2]

(b) Label the arrows on the condenser. [1]

(c) Identify **one** mistake in the apparatus.

applying heat to beaker [1]

(d) Which liquid would collect first? Explain your answer.

ethanol; its boiling point is lower than water's boiling point [2]

(e) Why would it be better to use an electrical heater instead of a Bunsen burner to heat the water and ethanol mixture?

ethanol is flammable [1]

[Total: 7]

Your Mark	Examiner marks and comments	
	Mark	Comment
1(a)	2/2	Box 1: The mark scheme has 'fractionating column' but the answer given is close enough to score a mark. Box 2: The word 'tripod' alone scores the mark but the word 'stand' alone would not.
1(b)	1/1	Water' is all that was required for each of these labels, but the answers given are still better.
1(c)	1/1	The candidate does not use the wording in the mark scheme, but it is clear from their answer that they understand this.
1(d)	2/2	An incorrect answer has been crossed out and replaced with the correct one. It is important that incorrect answers are completely deleted by candidates. If two conflicting answers are given, no marks are scored.
1(e)	1/1	Almost the exact words on the mark scheme. It was not necessary for the candidate to state that an electrical heater would avoid the risk of fire.

EXAMINER COMMENTS | MARK SCHEME

Select page

HIGH | MIDDLE | LOW

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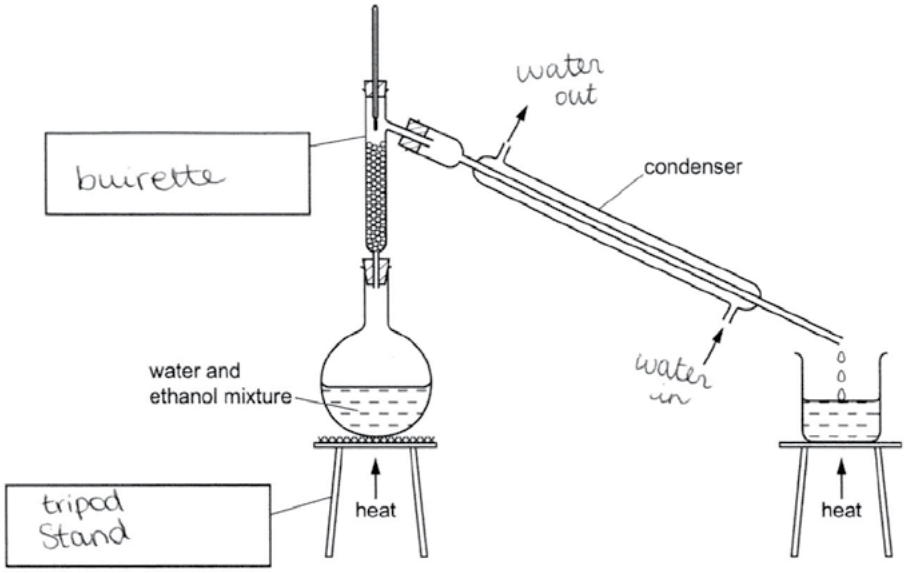


(a) Complete the boxes to name the apparatus. [2]

(b) Label the arrows on the condenser. [1]

(c) Identify **one** mistake in the apparatus.

heat applied to condensed liquid ..... [1]

(d) Which liquid would collect first? Explain your answer.

ethanol , it has a lower boiling point .....

..... [2]

(e) Why would it be better to use an electrical heater instead of a Bunsen burner to heat the water and ethanol mixture?

you can choose the exact temperature ..... [1]

[Total: 7]

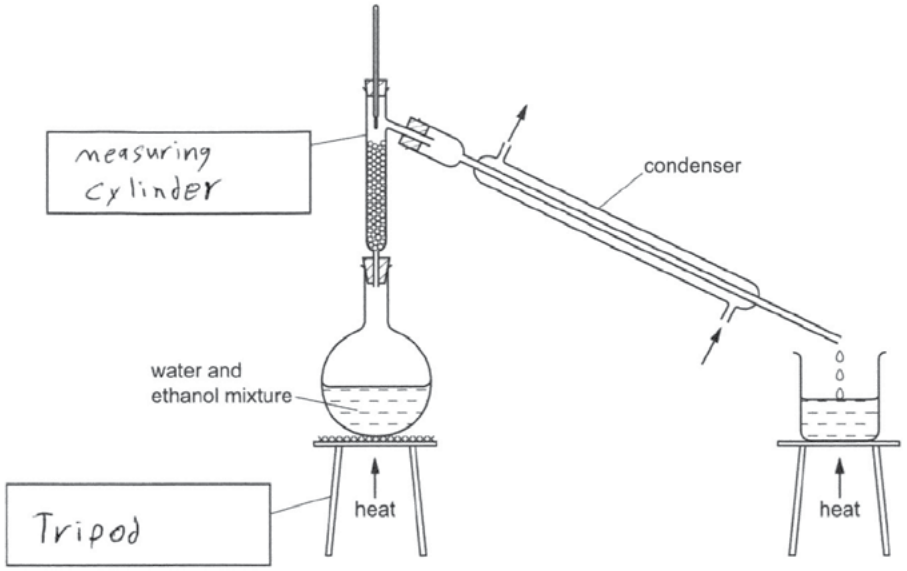
Your Mark	Examiner marks and comments	
	Mark	Comment
1(a)	1/2	Box 1: The candidate gives the name of a piece of apparatus with a similar shape but is clearly not familiar with the name specified in the mark scheme. Box 2: The word 'stand' is superfluous and would not have scored marks if used alone.
1(b)	1/1	No problems here. The word 'water' would have sufficed but there is nothing wrong with the answer given. Simply labelling 'in' and 'out' would not have scored marks.
1(c)	1/1	The mark scheme has 'heat applied under the beaker', but, since the beaker contains the condensed liquid, it is clear what the candidate means and the answer is still judged to be correct.
1(d)	2/2	A straightforward answer which almost exactly matches the mark scheme.
1(e)	0/1	It is true that an electrical heater allows the choice of a particular temperature. This is, however, not important in this experiment and it is not the reason given in the mark scheme.

EXAMINER COMMENTS | MARK SCHEME

Select page

HIGH | MIDDLE | LOW

1 The diagram shows the apparatus used to separate a mixture of water, boiling point 100 °C, and ethanol, boiling point 78 °C.



(a) Complete the boxes to name the apparatus. [2]

(b) Label the arrows on the condenser. [1]

(c) Identify **one** mistake in the apparatus.

~~(Water and ethanol mixture)~~ ~~(Heat in the)~~ Heat applied on collecting burrette. [1]

(d) Which liquid would collect first? Explain your answer.

Water, because it will get seperated from ethanol. [2]

(e) Why would it be better to use an electrical heater instead of a Bunsen burner to heat the water and ethanol mixture?

For accurate heating. [1]

[Total: 7]

Your Mark	Examiner marks and comments	
	Mark	Comment
1(a)	1/2	Box 1: The candidate appears not to know the name of this piece of apparatus, perhaps because they haven't seen or done this experiment. Box 2: Correct and to the point.
1(b)	0/1	No answer given here. Candidates sometimes fail to answer questions which do not involve writing an answer on a line.
1(c)	0/1	Here the candidate has deleted a correct answer only to replace it with a wrong one. The use of the word 'burette' makes it wrong even though the word 'collecting' has been added. It is not wise for candidates to use words which they don't understand.
1(d)	0/2	The initial answer is wrong here, and so the reason, although there is some truth in it, cannot be correct either. Again, the candidate appears to be unfamiliar with this experiment.
1(e)	0/1	An electrical heater may result in 'accurate heating' but this is not the reason why it is used in this case.

EXAMINER COMMENTS | MARK SCHEME

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