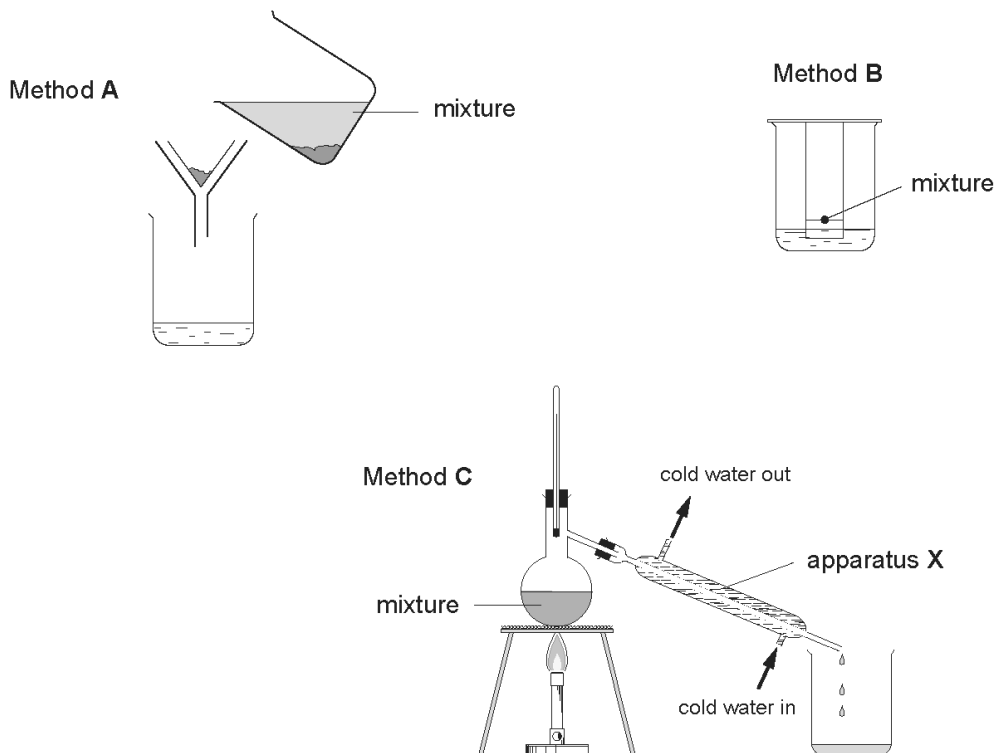


# PAG C4 Distillation

Question	Maximum Mark	Mark Awarded
1	3	
2	8	
<b>Total Mark</b>		

1. The diagrams below show three methods, A, B and C, used to separate mixtures.



(a) The names of the separation methods and some of the pieces of apparatus used are given in the box below.

beaker	distillation	chromatography
condenser	filter funnel	filtration

Choose the answers to parts (i) and (ii) from the box.

(i) Name apparatus X. [1]

.....

(ii) Give the name of method B. [1]

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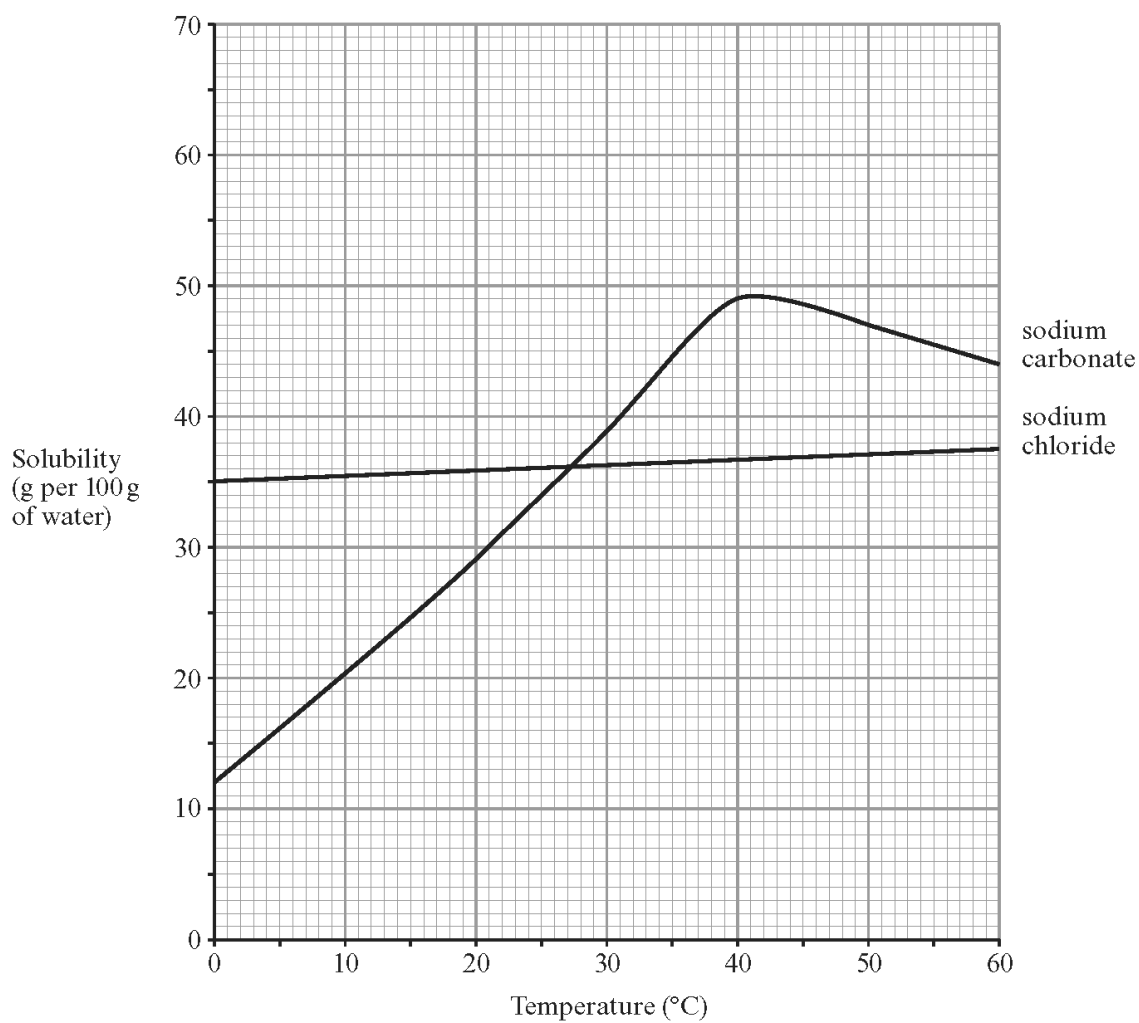
(b) Give the letter of the method you would use to separate ethanol from water. [1]

.....

3

2.

The graphs below show the solubilities of sodium chloride and sodium carbonate in water at different temperatures.



(a) Describe the trend in the solubility of sodium carbonate.

[1]

.....

.....

(b) The table below shows the solubility of sodium bromate in water at different temperatures.

Temperature (°C)	0	10	20	30	40	50	60
Solubility (g per 100 g of water)	25	29	35	41	48	55	64

Plot the results from the table on the grid opposite and draw a suitable line. [3]

(c) List the three sodium compounds in order of solubility at 40°C. [1]

*Most soluble* .....

.....

*Least soluble* .....

(d) The solubility of silver chloride is 0.0002 g in 100 g of water at room temperature, 20°C.

You are given a mixture of sodium chloride and silver chloride powder. Describe how you would obtain a sample of silver chloride from the mixture. [3]

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# Marking Scheme

1.

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT	(a)	(i)					
1			(i)	1	condenser			
			(ii)	1	chromatography			
		(b)		1	C	distillation		

2.

Question Number		Sub-section		Mark	Answer	Accept	Neutral answer	Do not accept
FT	HT	(a)						
8	1			1	solubility of sodium carbonate increases (until 40-43°C) and then decreases			
		(b)		3	plotting 7 correct points (2) plotting 6 correct points (1) suitable line – must be curve (1)			
		(c)		1	sodium carbonate sodium bromate sodium chloride – correct order			
		(d)		3	recognise that sodium chloride is soluble and silver chloride is not (1)  add (enough/excess) water (to remove/dissolve all the sodium chloride) (1)  filter (1)			