REDSPOT

O LEVEL

CLASSIFIED EXAM PAPERS

CHEMISTRY

Paper 1 (MCQ) - All Variants

(Syllabus 5070)

period	**2011 to 2024**
contents	**June & November, Paper 1 (P11 & P12) With Answers**
form	**Topic By Topic**
compiled for	**O Levels**

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Revision

Topic 1 Experimental Techniques & Chemical Analysis

TOPIC 1.1

Experimental Design & Methods of Purification

1. Copper(II) sulfate crystals are separated from sand using the four processes listed below.
In which order are these processes used?

	1st	2nd	3rd	4th
A	filtering	dissolving	crystallising	evaporating
B	filtering	dissolving	evaporating	crystallising
C	dissolving	evaporating	filtering	crystallising
D	dissolving	filtering	evaporating	crystallising

[June 2011/P11/P12/Q1]

2. In a titration between an acid (in the burette) and an alkali, you may need to re-use the same titration flask.

Which is the best procedure for rinsing the flask?

A Rinse with distilled water and then with the alkali.

B Rinse with tap water and then with distilled water.

C Rinse with tap water and then with the acid.

D Rinse with the alkali.

[Nov 2011/P11/P12/Q1]
Repeat [Nov 2015/P11/Q3]
[Nov 2015/P12/Q2]

3. A student measured the rate of reaction between calcium carbonate and dilute hydrochloric acid. A graph showing the volume of gas produced against time is shown.

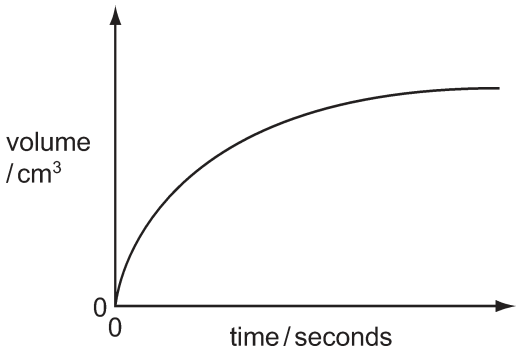
Which apparatus was used to measure the variables shown on the graph?

A balance and gas syringe

B burette and pipette

C gas syringe and stop watch

D pipette and stop watch



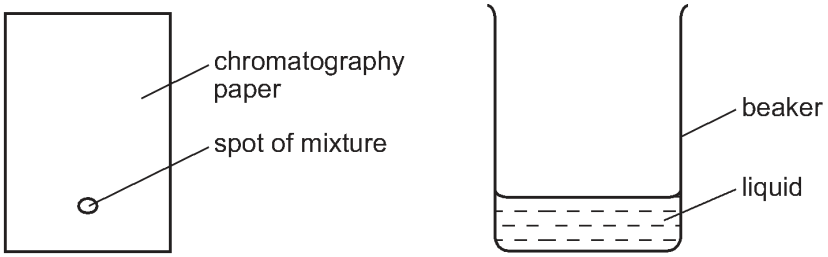
[June 2012/P11/Q1]

4. Which gas is **not** obtained industrially by fractional distillation?

A ammonia **B** argon **C** nitrogen **D** oxygen

[June 2012/P12/Q2]

5. A mixture of two substances is spotted onto a piece of chromatography paper.
The paper is inserted into a beaker containing a liquid.



For separation of the substances to occur the spot of mixture must

A be placed so that the spot is just below the level of the liquid.
B be soluble in the liquid.
C contain substances of the same R_f values.
D contain substances that are coloured.

[June 2012/P12/Q4]
Repeat [June 2012/P11/Q2]

6. It is suspected that a lollipop contains traces of a poisonous green dye (boiling point 73 °C) as well as two harmless orange and red dyes (boiling points 69 °C and 73 °C respectively).
What is the best method by which the green dye may be detected?

A filtration
B fractional distillation
C paper chromatography
D recrystallisation

[Nov 2012/P11/Q1]

7. In which method of separation are R_f values used?

A chromatography **B** crystallisation
C filtration **D** fractional distillation

[June 2013/P11/Q1]

8. Which mixture could best be separated by using a separating funnel?

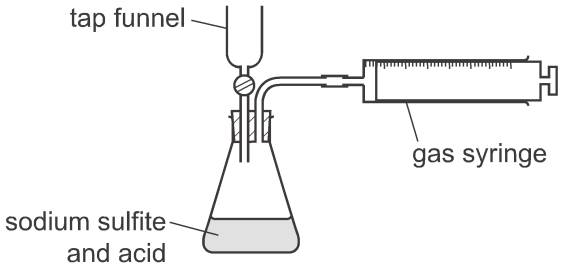
A oil and sand
B oil and water
C sodium chloride and sand
D sodium chloride and water

[June 2013/P12/Q1]

9. A student wanted to follow how the rate of the reaction of sodium sulfite with acid varies with time. The reaction produces gaseous sulfur dioxide.

Which apparatus is **not** suitable?

A



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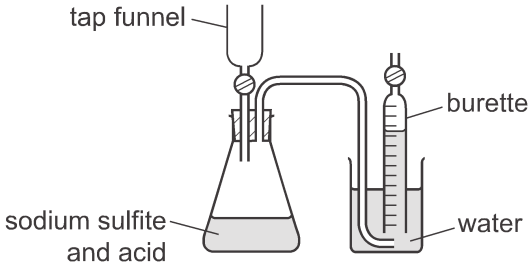

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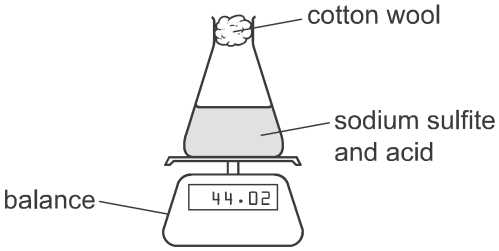

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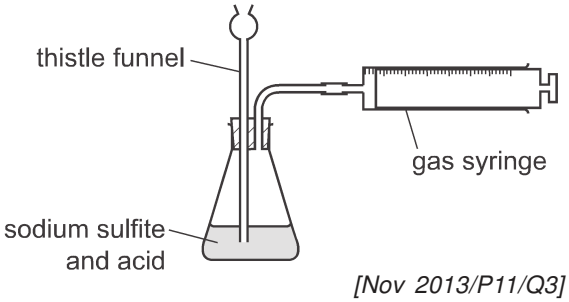
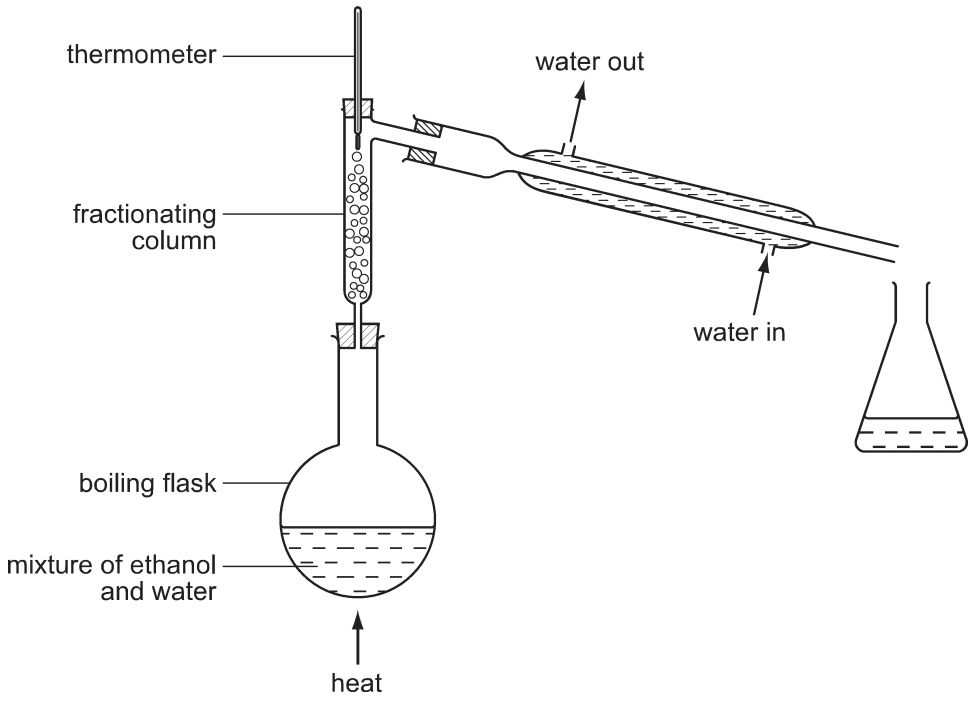


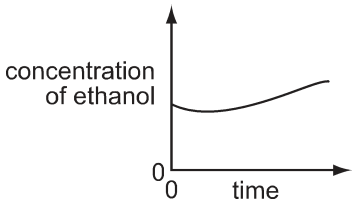
[Nov 2013/P11/Q3]

10. The apparatus shown is used to distil a dilute solution of ethanol in water.
[B.P.: ethanol, 78 °C; water 100 °C]

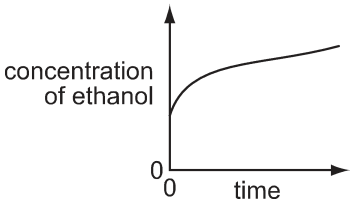


Which graph shows the change in concentration of the ethanol in the boiling flask as the distillation proceeds?

A



B



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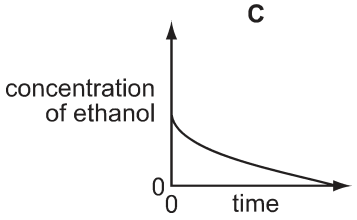

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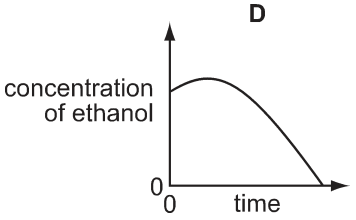
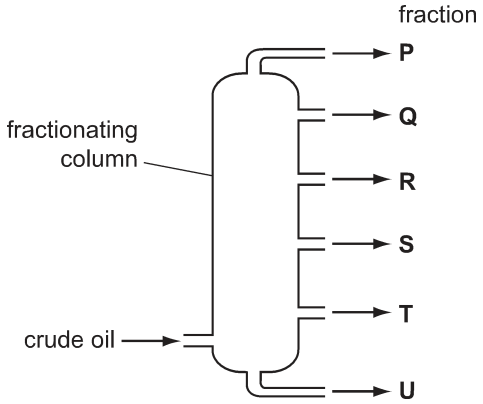


[Nov 2013/P11/Q4]

11. The diagram shows the fractionation of crude oil.

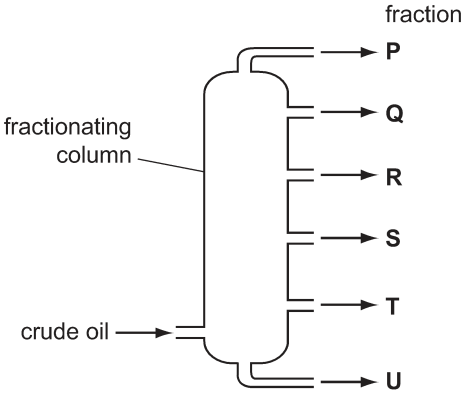


Which row explains why fraction **R** is collected above fraction **S**?

	boiling point of **R**	average molecular mass of **R**
A	higher than **S**	greater than **S**
B	higher than **S**	smaller than **S**
C	lower than **S**	greater than **S**
D	lower than **S**	smaller than **S**

[Nov 2013/P11/Q37]

12. The diagram shows the fractionation of crude oil.



Which statement is correct?

A Each fraction consists of a single compound.

B Fraction **P** has the highest boiling point.

C The highest temperature is at the top of the column.

D The naphtha fraction is used as feedstock for the chemical industry.

[Nov 2013/P12/Q3]

13. Which process is suitable for obtaining the water from an aqueous solution of sugar?

A crystallisation **B** distillation

C filtration **D** use of a separating funnel

[June 2014/P12/Q1]

14. Crude oil is fractionally distilled in a fractionating column. The positions at which fractions **X** and **Y** are collected are shown.

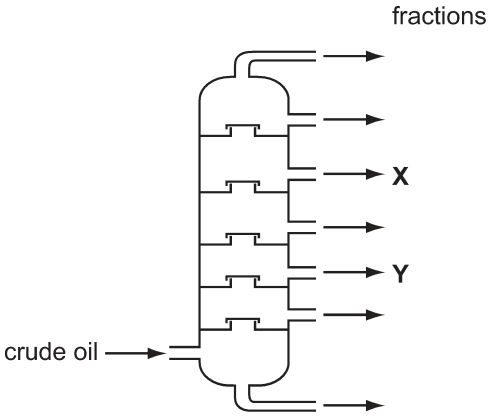
Which statement is correct?

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**.



[June 2014/P12/Q5]

15. Calcium carbonate reacts with hydrochloric acid, producing carbon dioxide gas.

$$CaCO_3(s) + 2HCl(aq) \rightarrow CaCl_2(aq) + H_2O(l) + CO_2(g)$$

The rate of this reaction can be measured using the apparatus shown.

Which additional piece of apparatus is also required?

A a burette **B** a clock

C a gas syringe **D** a thermometer

[Nov 2014/P11/Q1]

16. What is the correct sequence for obtaining pure salt from a mixture of sand and salt?

A add water, evaporate **B** add water, filter

C add water, filter, evaporate **D** filter, add water, evaporate

[Nov 2014/P11/Q3]

17. Petroleum is a mixture of hydrocarbons which can be separated into fractions by fractional distillation.

Which row shows the fractions in order of decreasing boiling point?

	highest b.p. ⟶			lowest b.p.
A	diesel	paraffin	naphtha	petrol
B	paraffin	naphtha	petrol	diesel
C	naphtha	petrol	diesel	paraffin
D	petrol	naphtha	paraffin	diesel

[Nov 2014/P11/Q14]

18. Solutions of lead(II) nitrate and potassium iodide are mixed together in the preparation of lead(II) iodide.

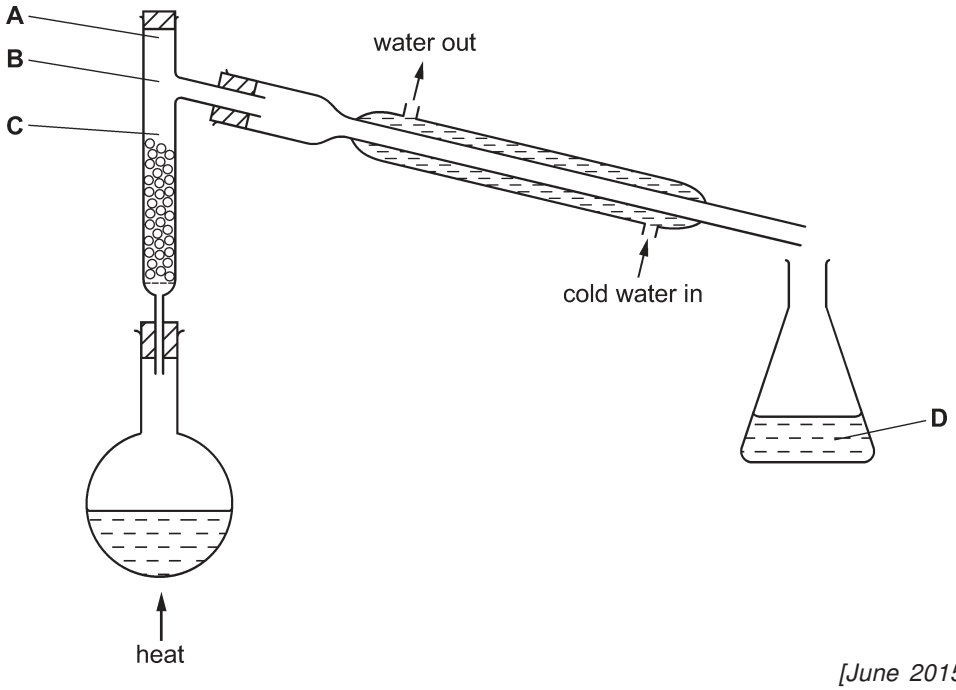
Which method can be used to separate the lead(II) iodide from the mixture?

A crystallisation **B** distillation **C** evaporation **D** filtration

[Nov 2014/P12/Q2]

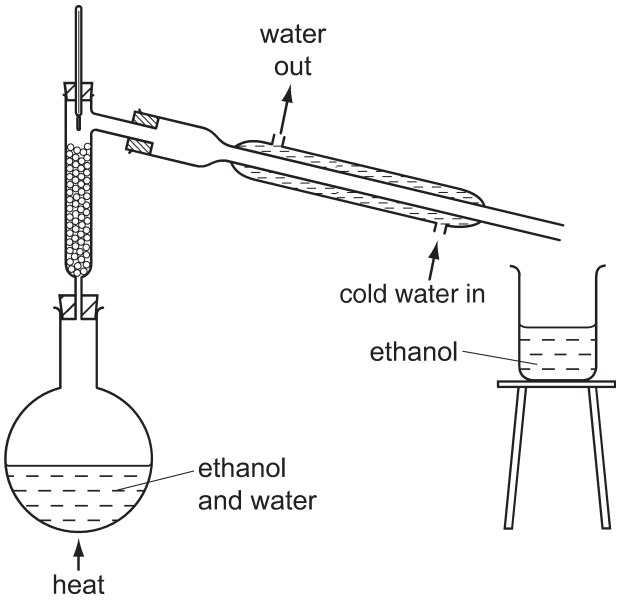
19. The fractional distillation apparatus shown is being used to separate a mixture of two liquids. A thermometer is missing from the apparatus.

Where should the bulb of the thermometer be placed?



[June 2015/P11/P12/Q1]

20. The diagram shows the fractional distillation of an aqueous solution of ethanol.



Which statement explains why ethanol is collected as the distillate?

A Ethanol has a higher boiling point than water.

B Ethanol has a higher melting point than water.

C Ethanol has a lower boiling point than water.

D Ethanol has a lower melting point than water.

[Nov 2015/P12/Q1]

21. A student plans two experiments.

experiment 1 find the concentration of a solution of sodium hydroxide by titration with dilute hydrochloric acid

experiment 2 find the rate of the reaction between pieces of calcium carbonate and dilute hydrochloric acid by measuring the volume of gas given off every minute

A flask is provided.

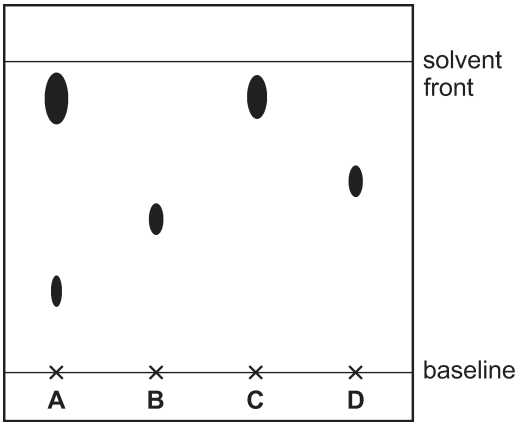
Which other apparatus is needed?

	experiment 1	experiment 2
A	balance, measuring cylinder, thermometer	gas syringe, clock
B	burette, pipette	balance, measuring cylinder, thermometer
C	burette, pipette	gas syringe, clock
D	gas syringe, clock	burette, pipette

[June 2016/P12/Q2]

22. Q is a pure sample of a substance that has a single R_f value of 0.9.

In the chromatogram shown, which letter represents Q?



[June 2016/P12/Q3]

23. Benzene and cyclohexane are both flammable liquids. They are able to mix with each other without separating into two layers. They have very similar boiling points. It is difficult to separate a mixture of these two liquids by fractional distillation.

Why is it difficult to separate a mixture of benzene and cyclohexane by fractional distillation?

A They are both flammable.

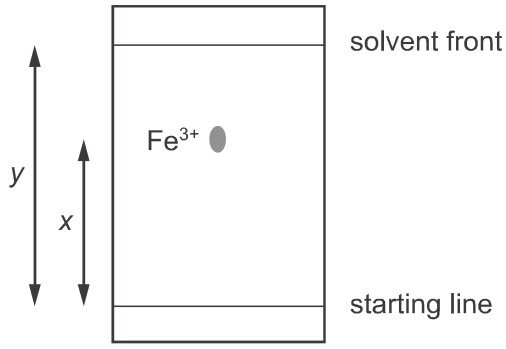
B They are both liquids.

C They have very similar boiling points.

D They mix with each other completely.

[Nov 2016/P12/Q4]

24. A paper chromatography experiment is carried out to find an R_f value for $Fe^{3+}(aq)$. The result is shown.



To make the spot containing $Fe^{3+}(aq)$ more visible, the paper is sprayed with aqueous sodium hydroxide so that a precipitate of iron(III) hydroxide forms.

Under the conditions of the experiment, the R_f of $Fe^{3+}(aq)$ is given by .....1..... and the colour of the precipitate is .....2..... .

Which row correctly completes gaps 1 and 2?

	gap 1	gap 2
A	$\frac{x}{y}$	red-brown
B	$\frac{x}{y}$	green
C	$\frac{y}{x}$	red-brown
D	$\frac{y}{x}$	green

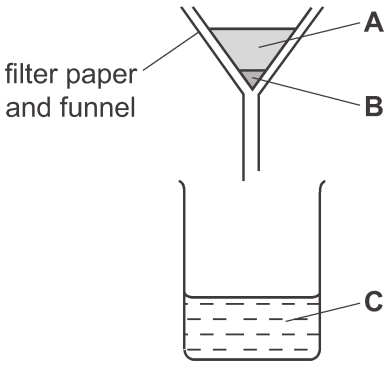
[Nov 2016/P11/Q3]

25. A mixture of sand and sodium chloride can be separated in three steps.

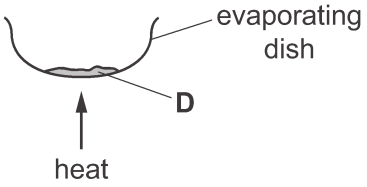
Step 1 is to add water to the mixture.

The diagram shows step 2 and step 3.

Where is pure sodium chloride collected?



step 2



step 3

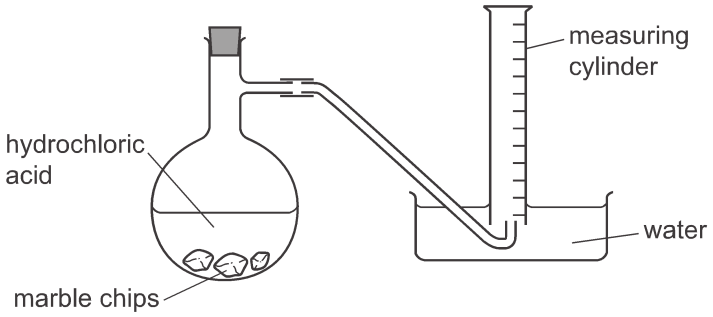
[Nov 2017/P12/Q1]

26. A student follows the rate of the reaction between marble chips, $CaCO_3$, and dilute hydrochloric acid.

$$CaCO_3 + 2HCl \rightarrow CaCl_2 + CO_2 + H_2O$$

Which diagrams show apparatus that is suitable for this experiment?

1



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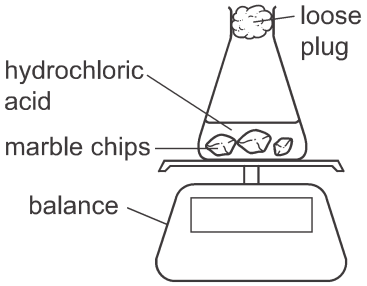
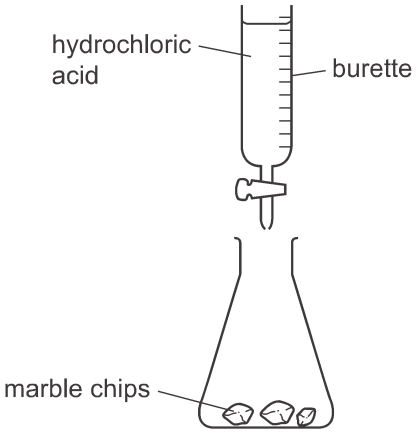


3



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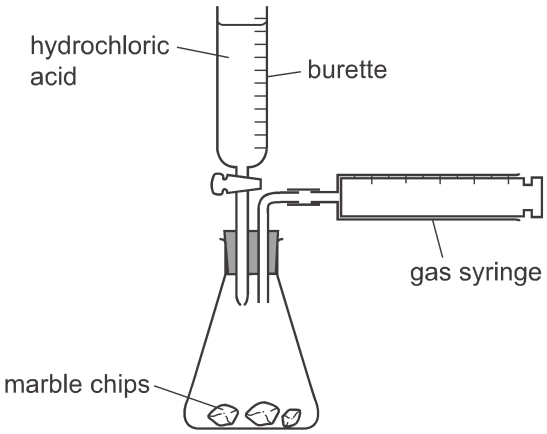


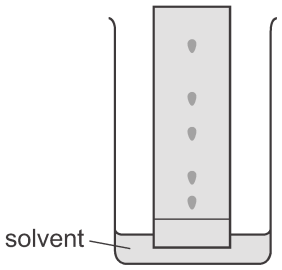
A 1 and 2 only **B** 1 and 3 **C** 1 and 4 only **D** 1, 2 and 4

[Nov 2017/P11/P12/Q4]
Repeat [Nov 2014/P12/Q1]

27. A chemist wishes to separate and identify a mixture of substances using paper chromatography. The diagram shows the apparatus used. The solvent is water.

The solvent front is allowed to reach the top of the paper before the chemist removes the paper from the solvent.

Which problem does this cause?



A This causes the spot nearest the bottom of the paper to catch up with the spot above it.

B This makes it impossible to calculate R_f values.

C This makes it impossible to use a locating agent.

D This results in a safety hazard caused by solvent fumes.

[Nov 2017/P12/Q5]

TOPIC 1.1

Answer Keys

1. D	2. B	3. C	4. A	5. B	6. C
7. A	8. B	9. B	10. C	11. D	12. D
13. B	14. B	15. B	16. C	17. A	18. D
19. B	20. C	21. C	22. C	23. C	24. A
25. D	26. D	27. B	28. B	29. A	30. D
31. B	32. C	33. C	34. C	35. D	36. B
37. B	38. B	39. B	40. C	41. C	42. D
43. C	44. D	45. D	46. D	47. B	48. C
49. A	50. B	51. B	52. B	53. B	54. B
55. D	56. A	57. D	58. C	59. D	60. C
61. B	62. B	63. D	64. C	65. D	66. C
67. D	68. A	69. C	70. A	71. A	72. C
73. A	74. B	75. C			

Topic 9 The Periodic Table

TOPIC 9.1

General Trends: Group I, Group VII, & Noble gases

1. Which compound is present in sand in the largest proportion?

A Al_2O_3 **B** $CaSO_4$ **C** $NaCl$ **D** SiO_2

[Nov 2012/P12/Q24]

2. Atoms of elements X and Y have the electron configurations 2,5 and 2,8,5 respectively.
Which deduction about these elements can be made from this information?

A The atoms are isomers.
B The atoms are isotopes.
C The elements are in the same group of the Periodic Table.
D The elements are in the same period of the Periodic Table.

[Nov 2012/P12/Q25]

3. Which substance in the table is the element iodine?

	state at room temperature	electrical conductivity when molten
A	liquid	good
B	liquid	none
C	solid	good
D	solid	none

[Nov 2012/P12/Q29]

4. The boiling points of gaseous elements increase as the size of their atoms increases.
Which of these noble gases has the highest boiling point?

A argon **B** helium **C** krypton **D** neon

[June 2013/P11/Q24]

5. An atom of which element has the same electronic configuration as the strontium ion?

A calcium **B** krypton **C** rubidium **D** selenium

[June 2013/P12/Q26]

6. Sulfur and selenium, Se, are in the same group of the Periodic Table.
From this, we would expect selenium to form compounds having the formulae

A Se_2O, Na_2Se and $NaSeO_4$.
B SeO_2, Na_2Se and $NaSeO_4$.
C SeO_2, Na_2Se and Na_2SeO_4.
D SeO_3, $NaSe$ and $NaSeO_4$.

[Nov 2013/P11/Q19]

7. *W*, *X* and *Y* are elements in the same period of the Periodic Table.

- *X* forms compounds of formulae XCl_2 and XCl_3.
- *Y* forms a solution of pH12 when it reacts with water.
- The reaction of *W* with water is similar to the reaction of *Y* with water but is less vigorous.

In which order are the elements in the Periodic Table?

	left to right along a period
A	$W \rightarrow Y \rightarrow X$
B	$X \rightarrow W \rightarrow Y$
C	$X \rightarrow Y \rightarrow W$
D	$Y \rightarrow W \rightarrow X$

[Nov 2013/P11/Q24]

8. Which change in the properties of the halogens is **not** correct?

	chlorine → bromine → iodine
A	darker in colour
B	decrease in melting point
C	decrease in rate of diffusion
D	increase in density

[Nov 2013/P11/Q23]

9. Ionic compounds have high melting points because of the strong attraction between oppositely charged ions.

Which compound has the lowest melting point?

A $(Al^{3+})_2(O^{2-})_3$ **B** $Mg^{2+}O^{2-}$ **C** Na^+Cl^- **D** $(Fe^{3+})_2(O^{2-})_3$

[Nov 2013/P12/Q29]

10. In which row are the elements placed in the correct order of their chemical reactivity, starting with the most reactive element?

	most reactive ⟶		least reactive
A	calcium	magnesium	silver
B	magnesium	calcium	silver
C	silver	calcium	magnesium
D	silver	magnesium	calcium

[Nov 2013/P12/Q30]

11. An element is in Period 3 and Group VII of the Periodic Table.

Which statement about this element is correct?

A The element will form 1+ ions.
B The element will have 3 electrons in its outer shell.
C The element will have 7 electrons in its outer shell.
D The element will have 7 shells of electrons in its atom.

[June 2014/P11/Q17]

12. Which particle is found in iodine vapour?

A I **B** I^- **C** I^+ **D** I_2

[June 2014/P11/Q26]

13. The table contains information about the physical properties of the elements chlorine, copper and iron.

element	melting point / °C	boiling point / °C
chlorine	–101	W
copper	X	2582
iron	1539	Y

In the table above, what are the correct values of W, X and Y?

	W	X	Y
A	–34	1083	445
B	–34	1083	2887
C	–34	2887	445
D	445	2887	1083

[June 2014/P11/Q18]

14. A hydride is a compound containing **only** two elements, one of which is hydrogen.
Which element can form the greatest number of different hydrides?

A carbon **B** chlorine **C** nitrogen **D** oxygen

[June 2014/P11/Q31]

15. Sodium and magnesium are next to each other in the Periodic Table.

	melting point / °C	boiling point / °C
Na	98	883
Mg	649	1103

Which statement explains the differences in the melting and boiling points of these elements?

A Na and Mg have different types of bonding.

B The electrostatic forces of attraction are stronger in Mg.

C The ionic bonds in Mg are stronger than those in Na.

D The Mg atoms are larger than the Na atoms.

[June 2014/P12/Q10]

16. Element *Q* is in Period 3 of the Periodic Table. It can form ions with the formula Q^{3-}.
Which element is most likely to be *Q*?

A aluminium **B** arsenic **C** phosphorus **D** sulfur

[June 2014/P12/Q23]

17. Which property would all the hydrogen compounds of the Group VII elements possess?

A be covalent
B be solids at room temperature
C form alkaline aqueous solutions
D conduct electricity when molten

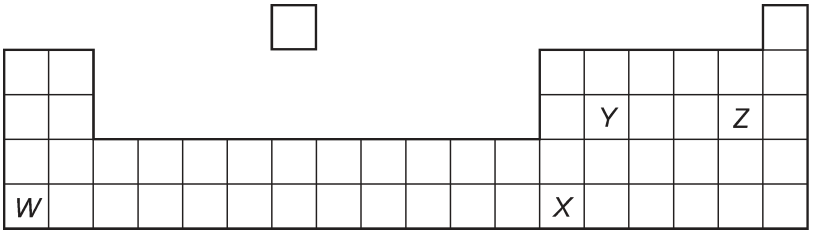
[June 2014/P12/Q24]
Repeat [June 2014/P11/Q25]

18. Which statement explains why the chemical properties of sodium and potassium are similar?

A They are in the same group of the Periodic Table.
B They are in the same period of the Periodic Table.
C They are soft and can be cut with a knife.
D They have similar melting points.

[Nov 2014/P11/Q22]

19. The diagram shows an outline of part of the Periodic Table.



Which statement is **not** correct?

A The melting point of *W* is lower than that of *Z*.
B *W* and *Z* could react together and form a compound, *WZ*.
C *X* could form an oxide, X_2O_3.
D *Y* could form an oxide, YO_2.

[Nov 2014/P11/Q23]

20. A gas **G**

1 has no smell,
2 is not poisonous,
3 reacts with hydrogen at high temperature and pressure.

What is gas **G**?

A carbon monoxide **B** helium **C** nitrogen **D** chlorine

[Nov 2014/P11/Q26]

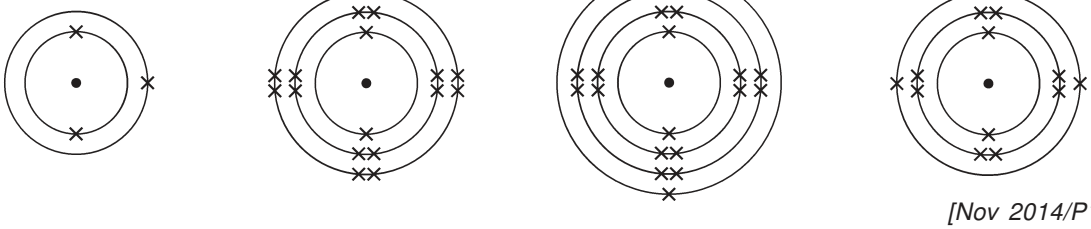
21. In the Periodic Table, how many periods are needed to accommodate the elements of atomic numbers 1-18?

A 2 **B** 3 **C** 4 **D** 8

[Nov 2014/P12/Q25]
Repeat [Nov 2014/P11/Q34]

22. The diagram shows the arrangement of electrons in the atoms of four different elements.
Which is the **least** reactive of the four elements?

A **B** **C** **D**



[Nov 2014/P12/Q26]

23. A non-metal element forms oxides of the type XO_2 and XO_3. What is *X*?

A aluminium **B** carbon **C** hydrogen **D** sulfur

[June 2015/P11/Q23]

24. Caesium is a Group I metal.
Which reaction involving this element would **not** produce hydrogen?

A adding caesium to ethanoic acid
B adding caesium to water
C electrolysing aqueous caesium chloride
D electrolysing molten caesium chloride

[June 2015/P12/Q14]

25. Which element is sodium?

	melting point in °C	electrical conduction	density in g/cm^3
A	1535	good	7.86
B	1083	good	8.92
C	113	poor	2.07
D	98	good	0.97

[June 2015/P12/Q24]
Repeat [June 2015/P11/Q22]

26. Hydrides are compounds of an element and hydrogen only.
Which statement is **not** correct?

A The hydride of carbon that contains four hydrogen atoms and one carbon atom, is a gas called methane.
B The hydride of chlorine dissolves in water to form an alkaline solution.
C The hydride of nitrogen is manufactured in the Haber process.
D The hydride of oxygen is a liquid at room temperature.

[June 2015/P12/Q30]

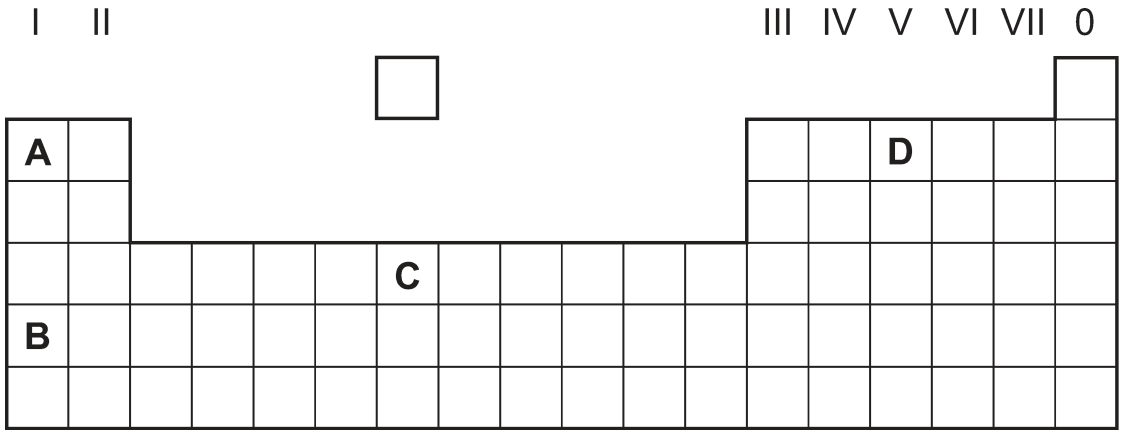
27. Which statement about the Periodic Table is correct?

A Elements are arranged in order of decreasing proton number.
B Group number is the number of electron shells in atoms of the elements in the group.
C Group numbers can be used to predict the charges of ions.
D Metallic character increases left to right across a period.

[Nov 2015/P12/Q21]

28. The Periodic Table shows the positions of elements **A**, **B**, **C** and **D**. These are not the usual symbols of these elements.

Which element has a high melting point and can be used as a catalyst?



[Nov 2015/P12/Q26]

29. What is the order of reactivity of the halogens?

	most reactive ⟶		least reactive
A	bromine	chlorine	iodine
B	chlorine	bromine	iodine
C	iodine	bromine	chlorine
D	iodine	chlorine	bromine

[Nov 2015/P12/Q32]

30. Group I metals form compounds with Group VII halogens. The compounds formed are ……1…… in water and contain ……2…… bonds.

Which words correctly complete gaps 1 and 2?

	1	2
A	insoluble	covalent
B	insoluble	ionic
C	soluble	covalent
D	soluble	ionic

[June 2016/P11/Q11]

31. Which statement about the elements in the Periodic Table is correct?

A All the elements in the same group of the Periodic Table have the same reactivity.

B All the elements with four electrons in their outer shells are metals.

C An element in Group II of the Periodic Table would form an ion with a 2– charge.

D Elements in the same period of the Periodic Table have the same number of shells of electrons.

[June 2016/P11/Q26]

32. From their position in the Periodic Table, which statement is correct?

A Atoms of elements in Group VII react to form ions by losing one electron.
B Iodine can displace bromine from its salts.
C Potassium reacts more rapidly than lithium with water to form the hydroxide and hydrogen.
D The melting point of caesium is greater than that of potassium.

[June 2016/P12/Q23]

33. An atom of an element has eight electrons only.
Which statement about this element is correct?

A It forms an ion with two negative charges.
B It has a full outer shell of electrons.
C It is a metal.
D It is in Group VIII of the Periodic Table.

[June 2016/P12/Q25]

34. Which equation shows a reaction that will occur at room temperature and pressure?

A $Br_2(aq) + 2NaCl(aq) \rightarrow 2NaBr(aq) + Cl_2(aq)$
B $Br_2(aq) + 2NaI(aq) \rightarrow 2NaBr(aq) + I_2(aq)$
C $I_2(aq) + 2NaCl(aq) \rightarrow 2NaI(aq) + Cl_2(aq)$
D $I_2(aq) + 2NaBr(aq) \rightarrow 2NaI(aq) + Br_2(aq)$

[Nov 2016/P11/Q27]

35. An element, *Z*, from Group II of the Periodic Table reacts with chlorine, an element from Group VII.
What is the formula of the ionic compound formed?

A ZCl_2 **B** Z_2Cl **C** Z_2Cl_7 **D** Z_7Cl_2

[Nov 2016/P11/Q31]

36. The table shows some properties of four metal chlorides.
Which row is magnesium chloride?

	colour	solubility in water	method of preparation
A	green	insoluble	precipitation
B	green	soluble	metal and acid
C	white	insoluble	precipitation
D	white	soluble	metal and acid

[Nov 2016/P12/Q20]
Repeat [Nov 2016/P11/Q19]

37. A lump of element **X** can be cut by a knife.
During its reaction with water, **X** floats and melts.
What is **X**?

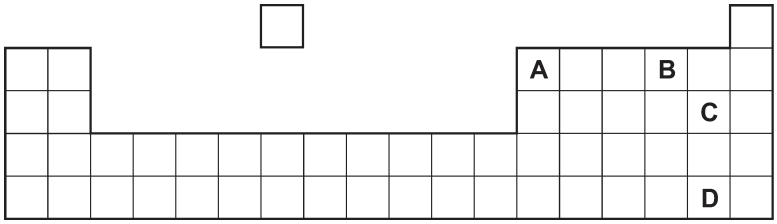
A calcium **B** copper **C** magnesium **D** potassium

[Nov 2016/P12/Q22]
Repeat [Nov 2016/P11/Q20]
[Nov 2011/P11/P12/Q22]
[June 2020/P11/P12/Q24]

38. Element *Z* combines with sodium to form the compound Na_2Z.

The positions of four elements are shown on the outline of part of the Periodic Table.

Which is element *Z*?



[Nov 2016/P12/Q24]

39. Which statement about the uses of gases is **not** correct?

A Helium is used in balloons because it is unreactive and less dense than air.

B Hydrogen is used in an addition reaction with saturated vegetable oils to form margarine.

C Nitrogen from the air is used in the manufacture of ammonia.

D Oxygen is used in making steel and welding.

[Nov 2016/P12/Q30]

40. The table shows the proton numbers of four elements.

element	Q	R	T	Z
proton number	9	11	17	19

Which statement is correct?

A Q is a metal.

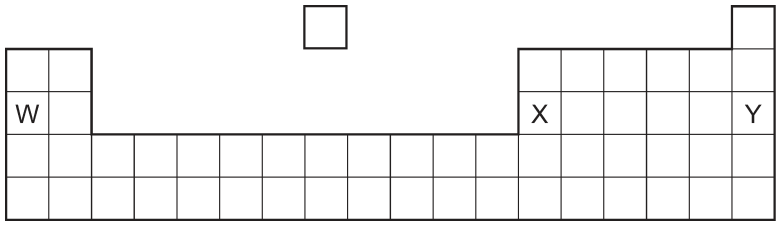
B Q is more reactive than T.

C R is more reactive than Z.

D T and Z are in the same period.

[June 2017/P11/Q23]

41. The diagram shows part of the Periodic Table.



Which row about the elements W, X and Y is correct?

	combines with oxygen in the ratio 2 : 3	exists as single atoms and is chemically unreactive	forms a carbonate which is not decomposed by heating in a Bunsen flame
A	W	X	Y
B	W	Y	X
C	X	W	Y
D	X	Y	W

[June 2017/P11/Q24]

42. Which pair gives two uses of argon?

A disinfecting water and in balloons
B disinfecting water and in light bulbs
C in balloons and in the manufacture of steel
D in light bulbs and in the manufacture of steel

[June 2017/P11/Q26]

43. Caesium, Cs, is in the same group of the Periodic Table as sodium.
Which products are obtained from the electrolysis of concentrated aqueous caesium chloride?

	product at negative electrode	solution remaining
A	caesium	hydrochloric acid
B	chlorine	caesium hydroxide
C	hydrogen	caesium hydroxide
D	hydrogen	hydrochloric acid

[June 2017/P12/Q12]

44. Zinc reacts with dilute sulfuric acid.

$$Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$$

From this equation, what can be deduced about the reaction?

A It is a redox reaction.
B It is exothermic.
C Zinc is acting as a base.
D Zinc is acting as a catalyst.

[June 2017/P12/Q18]

45. Element X forms an oxide of formula X_2O_5.
In which group of the Periodic Table is X likely to be found?

A Group II **B** Group III **C** Group V **D** Group VIII

[June 2017/P12/Q22]

46. An atom of element **E** forms a white oxide of formula **E**O.
What is **E**?

A argon **B** calcium **C** copper **D** potassium

[June 2017/P12/Q24]

47. The total number of electrons in one atom of element Q is 17 and in one atom of element R is 19.
Which statement about elements Q and R is correct?

A Q and R react together to form a covalent compound.
B Q forms positive ions.
C R has more outer shell electrons than Q.
D R is more metallic than Q.

[Nov 2017/P11/Q27]

48. How can the reaction between nitrogen and hydrogen be described?

A a displacement reaction
B a neutralisation reaction
C a precipitation reaction
D a reversible reaction

[June 2017/P12/Q30]

49. Which statement about both the Group I and Group VII elements is correct?

A They conduct electricity when molten.
B They form covalent compounds when bonded to non-metals.
C They exist as diatomic molecules.
D When Group I elements combine with Group VII elements, ionic compounds form.

[Nov 2017/P12/Q27]

50. The elements helium, argon and neon are noble gases.
Which statement is correct?

A All these elements have eight electrons in their outer shell.
B Argon is used to react with impurities in the manufacture of steel.
C Helium is used in balloons as it is more dense than air.
D Neon is used in light bulbs to give an inert atmosphere.

[Nov 2017/P12/Q28]

51. Which statement about Group I metals is correct?

A They are hard compared with most other metals.
B They form coloured compounds.
C They have high densities compared with most other metals.
D They only form ions with a charge of +1.

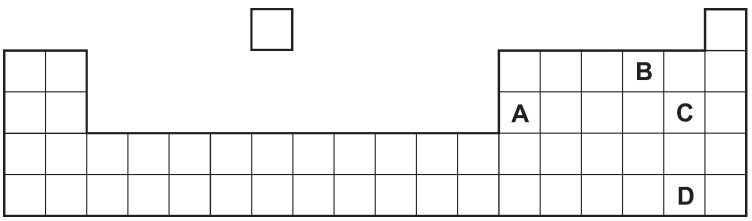
[Nov 2017/P12/Q32]

52. Which statement about the elements in the Periodic Table is correct?

A An atom of potassium, K, has more protons than an atom of argon, Ar.
B Elements in the same period have similar chemical properties.
C Elements that are non-metals form only covalent bonds with other elements.
D On descending Group I from lithium, Li, to caesium, Cs, the metals become less reactive.

[June 2018/P11/Q26]

53. The positions of four elements are shown on the outline of part of the Periodic Table.
Which element is a solid non-metal at r.t.p.?



[June 2018/P11/P12/Q27]
Repeat [Nov 2014/P12/Q22]

TOPIC 9.1

Answer Keys

1.	D	2.	C	3.	D	4.	C	5.	B	6.	C
7.	D	8.	B	9.	C	10.	A	11.	C	12.	D
13.	B	14.	A	15.	B	16.	C	17.	A	18.	A
19.	A	20.	C	21.	B	22.	B	23.	D	24.	D
25.	D	26.	B	27.	C	28.	C	29.	B	30.	D
31.	D	32.	C	33.	A	34.	B	35.	A	36.	D
37.	D	38.	B	39.	B	40.	B	41.	D	42.	D
43.	C	44.	A	45.	C	46.	B	47.	D	48.	D
49.	D	50.	D	51.	D	52.	A	53.	D	54.	C
55.	A	56.	D	57.	B	58.	D	59.	C	60.	B
61.	B	62.	C	63.	C	64.	B	65.	B	66.	C
67.	D	68.	B	69.	B	70.	B	71.	A	72.	B
73.	B	74.	D	75.	D	76.	C	77.	D	78.	A
79.	B	80.	D	81.	A	82.	B	83.	D	84.	C
85.	D	86.	D	87.	D	88.	D	89.	D	90.	A
91.	C	92.	C	93.	B						