



Rewarding Learning

General Certificate of Secondary Education
2014

Centre Number

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Candidate Number

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GCSE Chemistry

Unit 1

Foundation Tier



[GCH11]

GCH11

TUESDAY 10 JUNE, AFTERNOON

TIME

1 hour 15 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer the questions in the spaces provided. Do not write outside the box, around each page or on blank pages.

Complete in blue or black ink only. **Do not write with a gel pen.**

Answer **all five** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Question **1(d)**.

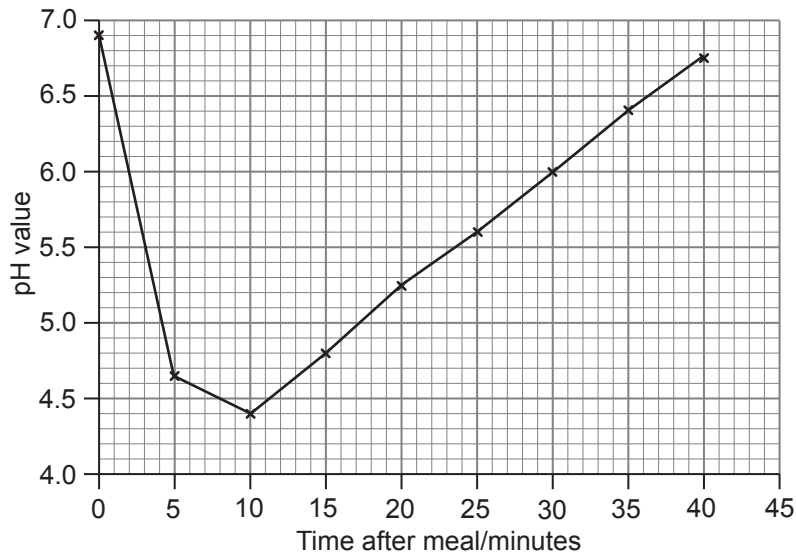
A Data Leaflet, which includes a Periodic Table of the Elements, is included in this question paper.

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20GCH1101

- 1 (a) In an experiment a sample of human saliva was removed from the mouth every five minutes after a meal and the pH values were determined. The graph below shows how the pH values of the saliva changed.



- (i) How were the pH values of the saliva determined in this experiment? [1]
- _____
- (ii) A sample of saliva was tested with phenolphthalein indicator 30 minutes after the meal. State the colour observed when the saliva was tested with phenolphthalein. [1]
- _____
- (iii) When the pH in the mouth is 5.5 or less tooth decay occurs. Use the graph to find the time after the meal at which teeth would start to decay. [1]
- _____

Examiner Only	
Marks	Remark



(c) The digested food from the stomach is passed into the small intestine. Sodium chloride is a salt which is absorbed in the small intestine. Some tests were carried out to prove that a salt is sodium chloride. Complete the table below.

Test	Result for a positive test
1. Flame test	
2. Add 5 drops of silver nitrate solution to a solution of the salt.	

[1]

[2]

Examiner Only	
Marks	Remark



2 The modern Periodic Table contains over 100 elements.

(a) At room temperature and pressure most of these elements are solids, a few are gases and two are liquids.

(i) Write the symbol for the metallic element which is a liquid at room temperature and pressure.

_____ [1]

(ii) Name two elements which exist as gases at room temperature and pressure.

1. _____

2. _____ [2]

(b) On heating, the element iodine undergoes sublimation.

(i) Explain what you understand by sublimation.

_____ [1]

(ii) What would be observed when a sample of iodine is heated?

_____ [2]

Examiner Only

Marks Remark



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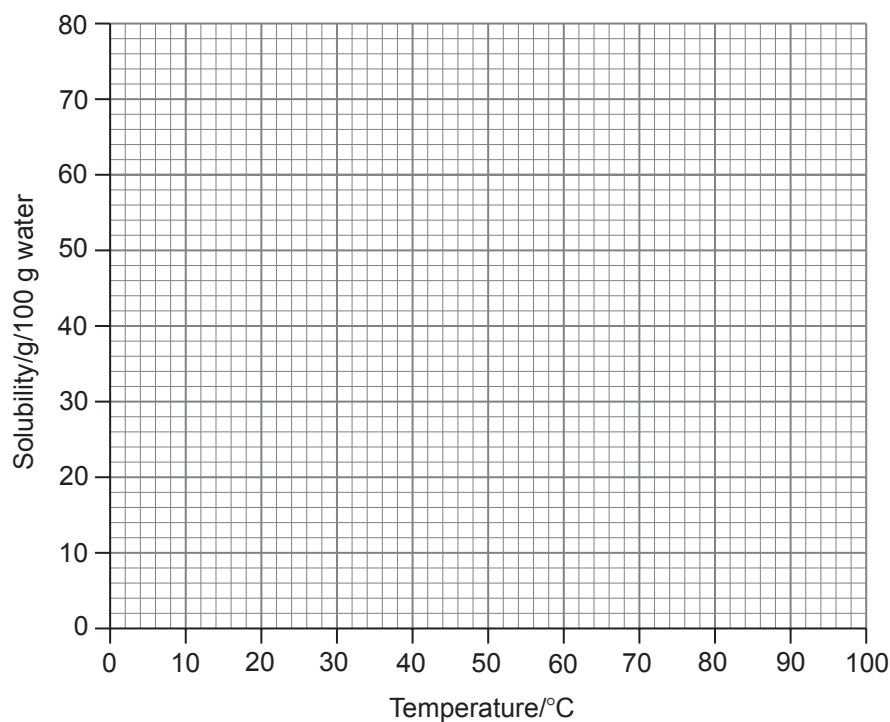
(b) The table below shows values for the solubility of copper(II) sulfate.

Temperature (°C)	0	20	40	60	80	100
Solubility (g/100 g water)	14	20	28	40	56	77

(i) Explain what is meant by the term solubility.

[4]

(ii) Use the data in the table to plot a solubility curve for copper(II) sulfate on the axes below.



Examiner Only

Marks Remark



(b) The atoms of the Group 8 elements have a full outer shell of electrons.

(i) What name is given to Group 8 of the Periodic Table?

_____ [1]

(ii) Complete the table below for some Group 8 elements.

Name of element	Electronic configuration of an atom of the element
	2, 8
	2
argon	

[3]

(c) The box below contains examples of chemical symbols and formulae.

CO ₂	NO ₃ ⁻	S ²⁻
SO ₄ ²⁻	Br ₂	Ne
O ²⁻	S	O ₂

From the box above select the formula or symbol for:

(i) a diatomic molecule _____ [1]

(ii) a molecular ion _____ [1]

(iii) the sulfide ion _____ [1]

Examiner Only

Marks Remark



(d) Substances have different types of bonding and structure. A variety of substances is shown in the table below.

aluminium	carbon dioxide	diamond
graphite	iron	lithium oxide
potassium sulfide	iodine	water

Using ONLY the substances in the table, answer the following questions.

(i) Name one substance in which the bonding is ionic.

_____ [1]

(ii) Name one substance in which the structure is described as giant covalent.

_____ [1]

(iii) Which substance has the lowest melting point?

_____ [1]

(iv) Name one substance which will conduct electricity at room temperature.

_____ [1]

(e) Diamond is an allotrope of which element?

_____ [1]

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Marks

Remark

Total Question 4



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20GCH1118





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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	

Total Marks	
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Examiner Number

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