New Specification

Rewarding Learning

Centre Number

Candidate Number

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2017

Chemistry

Assessment Unit AS 3
assessing
Module 3: Basic
Practical Chemistry

Practical Booklet A

MV18

[SCH31]

WEDNESDAY 3 MAY, MORNING

Time

1 hour 15 minutes, plus your additional time allowance.

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.
Complete in black ink only.
Answer **all three** questions.

Information for Candidates

The total mark for this paper is 25.
Figures in brackets printed at the end of each question indicate the marks awarded to each question or part question.
A Periodic Table of Elements (including some data) is provided.
You may not have access to notes, textbooks and other material to assist you.
Safety glasses should be worn at all times and care should be taken during this practical examination.

1 You are provided with four solutions labelled **A**, **B**, **C** and **D**.

(a) Describe the appearance of the solutions. [1 mark]

_____

(b) Give observations obtained when the procedures listed below are performed.

(i) Mix 2 cm^3 of **A** with 2 cm^3 of **B** in a test tube. [1 mark]

_____

_____

(ii) Mix 2 cm^3 of **A** with 2 cm^3 of **C** in a test tube. [2 marks]

_____

_____

(iii) Mix 2 cm^3 of **A** with 2 cm^3 of **D** in a test tube. [1 mark]

_____

_____

(iv) Mix 2 cm^3 of **B** with 2 cm^3 of **C** in a test tube.
[2 marks]

(v) Mix 2 cm^3 of **B** with 2 cm^3 of **D** in a test tube.
[1 mark]

(vi) Mix 2 cm^3 of **C** with 2 cm^3 of **D** in a test tube.
[2 marks]

2 **(a)** You are required to react hydrochloric acid of unknown concentration with standard 2.0 mol dm^{-3} sodium hydroxide solution.

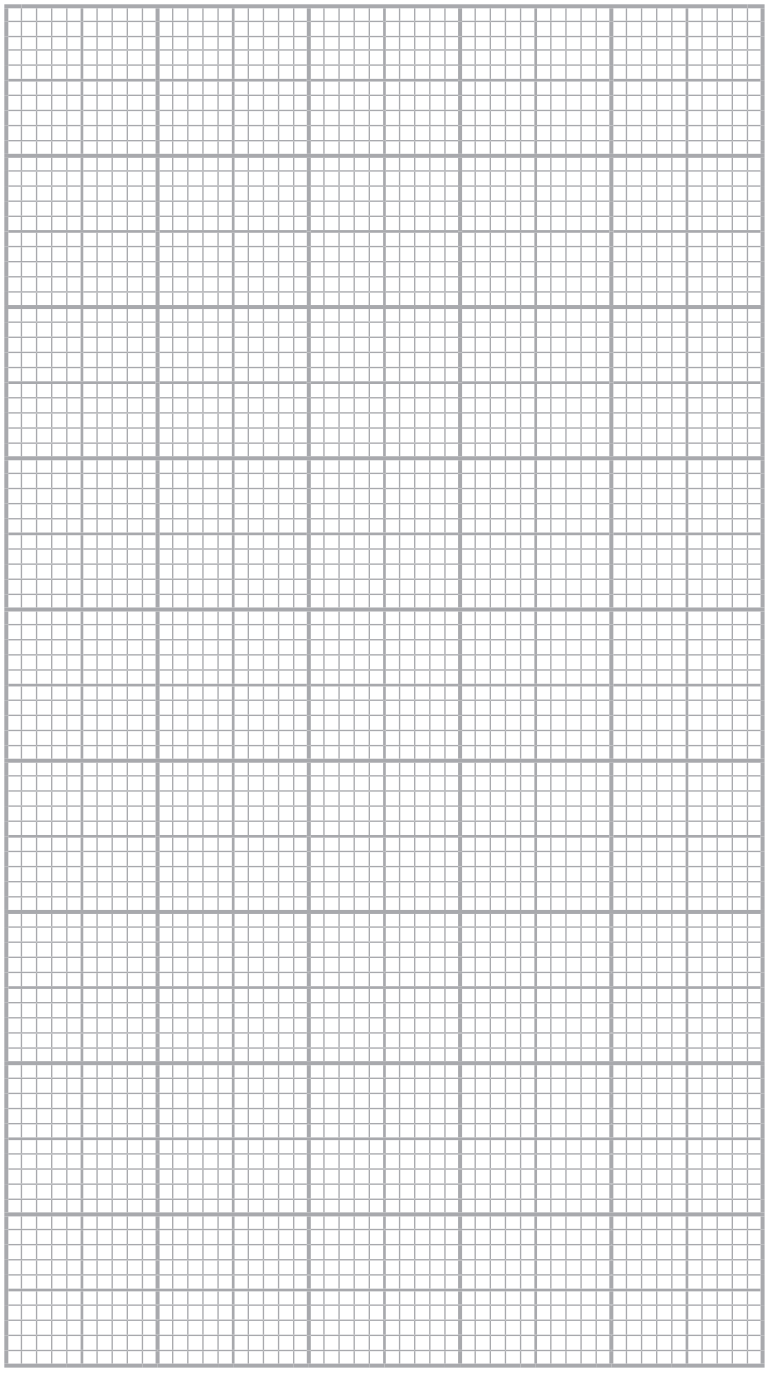
You are provided with:

hydrochloric acid of unknown concentration
2.0 mol dm^{-3} sodium hydroxide solution
a thermometer

- Rinse out a burette with the hydrochloric acid.
- Fill the burette with the hydrochloric acid.
- Rinse out a pipette with the sodium hydroxide solution.
- Using the pipette and a pipette filler, place 25.0 cm^3 of the sodium hydroxide solution in a polystyrene cup in a beaker.
- Measure and record the temperature of the sodium hydroxide solution.
- Add 5.0 cm^3 of hydrochloric acid from the burette to the sodium hydroxide solution, stir and record the temperature in a suitable table.
- Continue adding 5.0 cm^3 portions and recording the temperature, until 40.0 cm^3 of hydrochloric acid solution has been added.
- Repeat the complete experiment to obtain a mean temperature.
- Present your results in a suitable table on the opposite page. [4 marks]

(b) (i) Label the axes on the graph, including the units. [1 mark]

(ii) Plot a graph of mean temperature against volume of hydrochloric acid added. [2 marks]



3 You are provided with three unknown liquids labelled **E**, **F** and **G**. Without using any other reagents, give observations for each of the following procedures.

(a) Describe the smell of each of the liquids.
[1 mark for each]

(i) E _____

_____

(ii) F _____

_____

(iii) G _____

_____

(b) (i) Mix 2 cm^3 of **E** with 2 cm^3 of **F** in a test tube.

_____

(ii) Mix 2 cm^3 of **E** with 2 cm^3 of **G** in a test tube.

_____

(iii) Mix 2 cm^3 of **F** with 2 cm^3 of **G** in a test tube.

_____

[3 marks]

(c) Place 2 drops of **F** and **G** on different watch glasses and ignite using a burning splint. [1 mark for each]

(i) F _____

(ii) G _____

THIS IS THE END OF THE QUESTION PAPER

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