

Chemistry  
PAPER 1  
Foundation Tier

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

## INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

**THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.**

## **Contents**

### **Page**

<b>4</b>	<b>Question 1(b)(iii)</b>
<b>5</b>	<b>Question 1(c)</b>
<b>6</b>	<b>Question 1(c) (Spare copy)</b>
<b>7</b>	<b>Question 2</b>
<b>8</b>	<b>Question 3(a)(iv)</b>
<b>9</b>	<b>Question 3(b)</b>
<b>10</b>	<b>Question 4</b>
<b>11</b>	<b>Question 5(c)(ii)</b>
<b>12</b>	<b>Question 6(c)</b>
<b>13</b>	<b>Question 6(c)(i)</b>
<b>14</b>	<b>Question 6(c)(i) (Spare copy)</b>
<b>15</b>	<b>Question 7(b)</b>
<b>16</b>	<b>Question 8(b)(iv)</b>
<b>17</b>	<b>Question 8(b)(iv) (Spare copy)</b>
<b>18</b>	<b>Question 8(c)</b>
<b>19</b>	<b>Question 10(a)</b>

## Question 1(b)(iii)

Diagram A

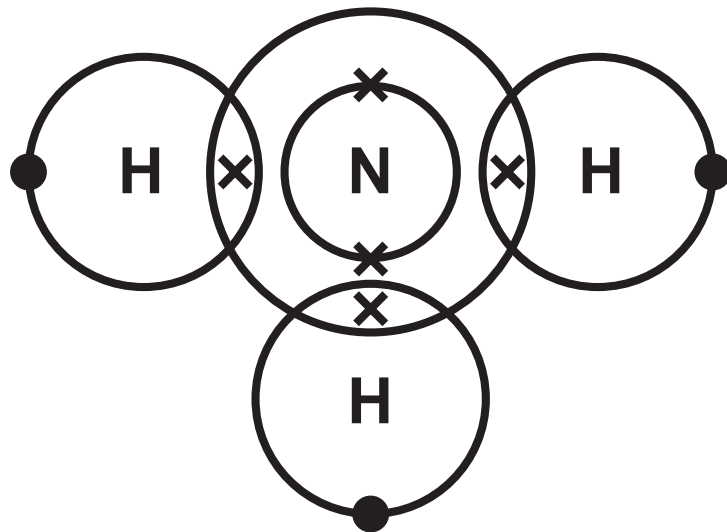


Diagram B

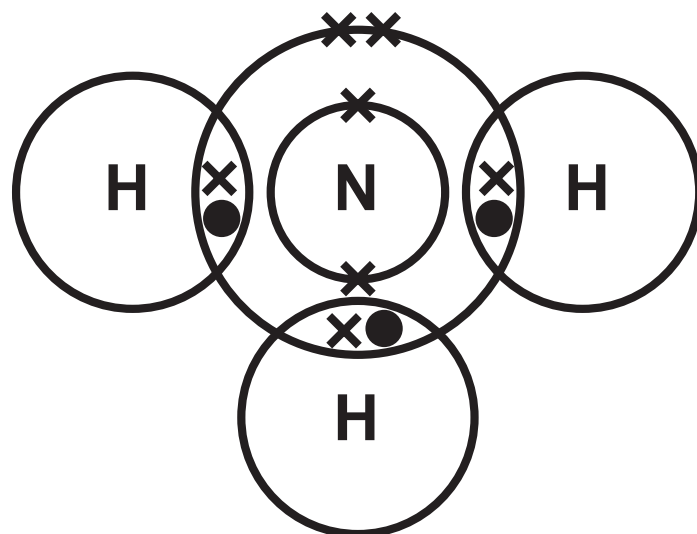


Diagram C

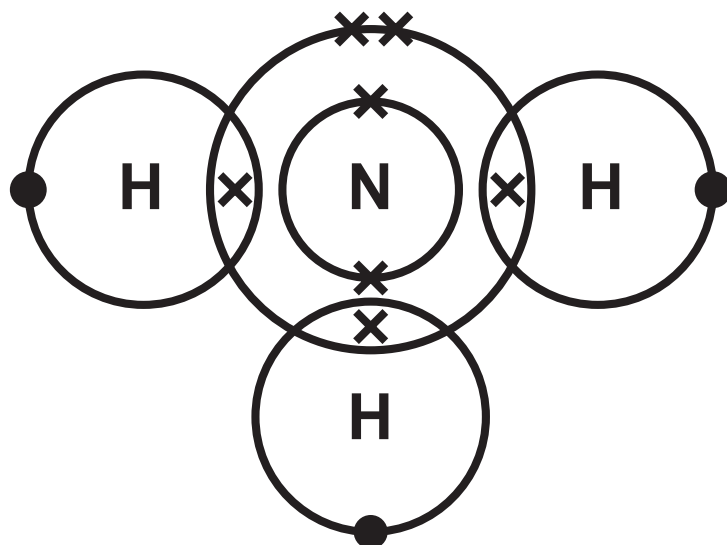
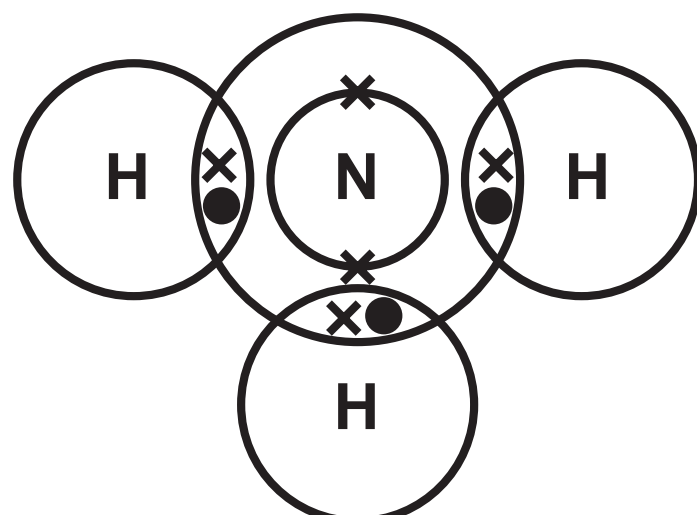


Diagram D



Question 1(c)

$$\frac{1}{x^2} + \frac{1}{x^3} = \frac{1}{x^2} + \frac{1}{x^3}$$

Question 1(c)

$$\begin{array}{c} \text{+} \\ \hline \end{array} \quad \begin{array}{c} \uparrow \\ \hline \end{array} \quad \begin{array}{c} \phantom{+} \\ \hline \end{array}$$

## Question 2

FIGURE 4

<b>substance</b>	<b>before heating</b>	<b>when hot</b>	<b>after cooling</b>
<b>metal spoon</b>	<b>solid</b>	<b>solid</b>	<b>solid</b>
<b>chocolate</b>	<b>solid</b>	<b>liquid</b>	<b>solid</b>
<b>egg white</b>	<b>liquid</b>	<b>solid</b>	<b>solid</b>

## Question 3(a)(iv)

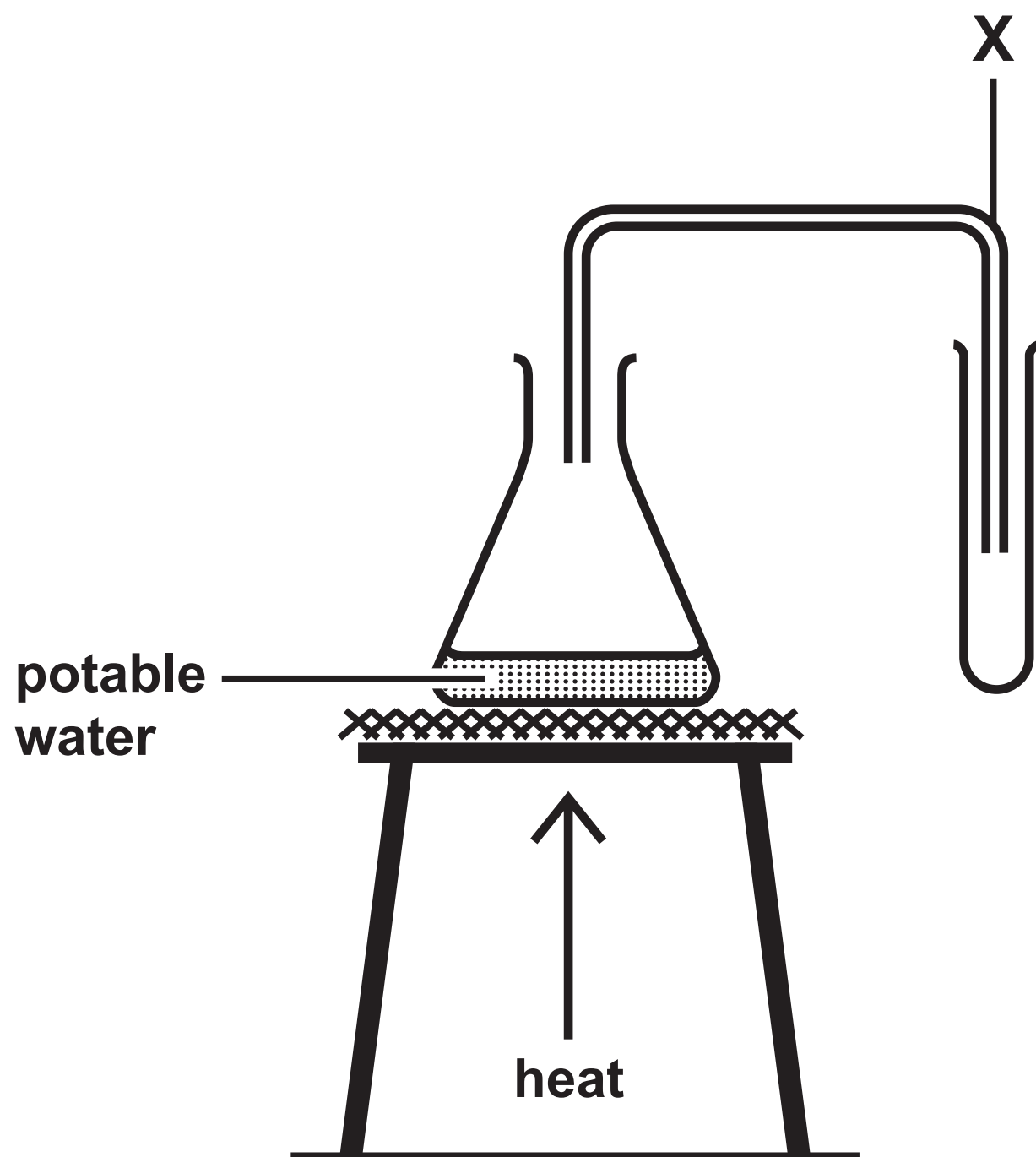
FIGURE 5

ion	concentration in mg dm <sup>-3</sup>
chloride	60·70
fluoride	0·24
nitrate	24·90
sulfate	71·40
copper	0·05
magnesium	9·10



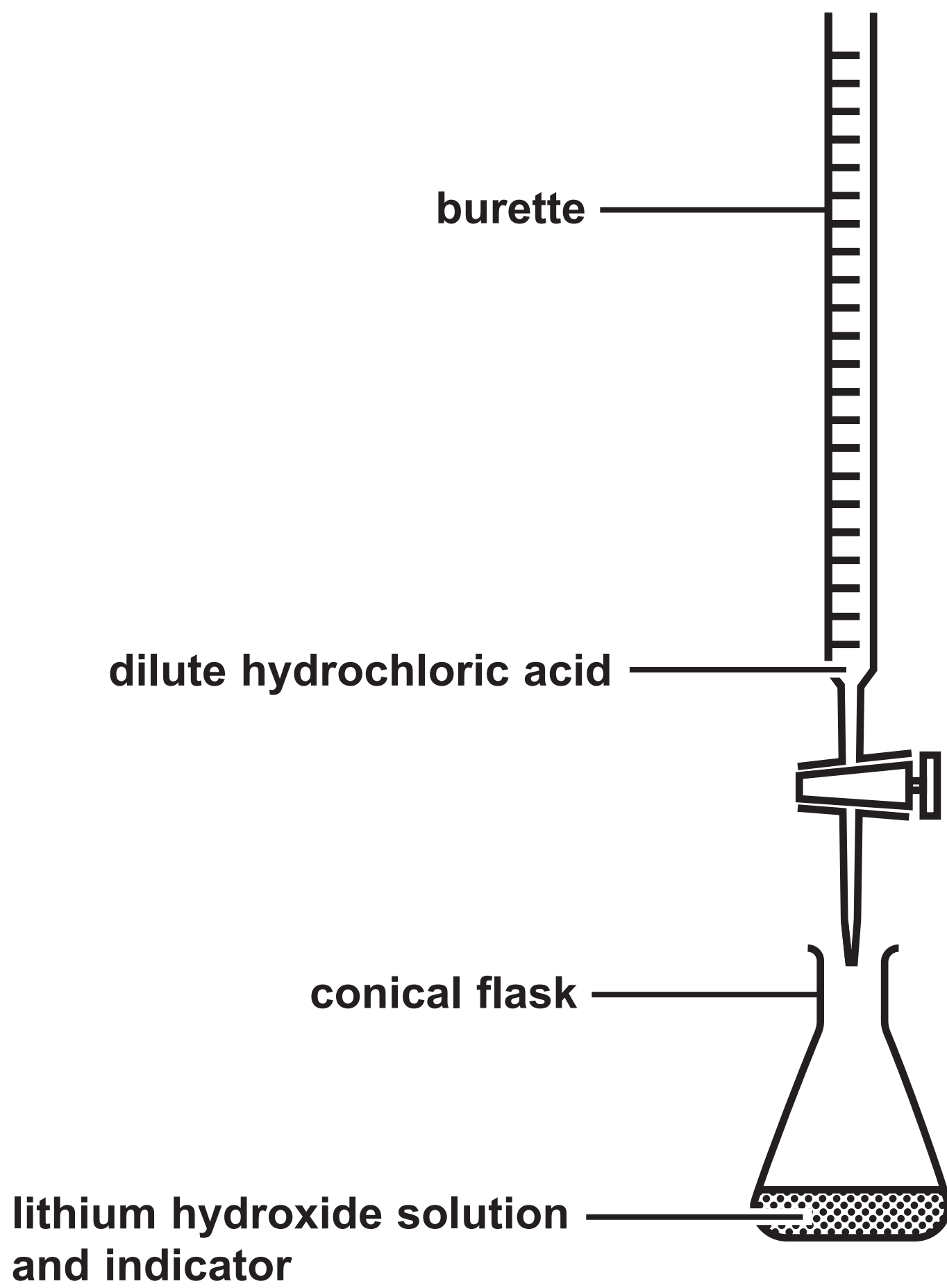
## Question 3(b)

FIGURE 6



## Question 4

FIGURE 7



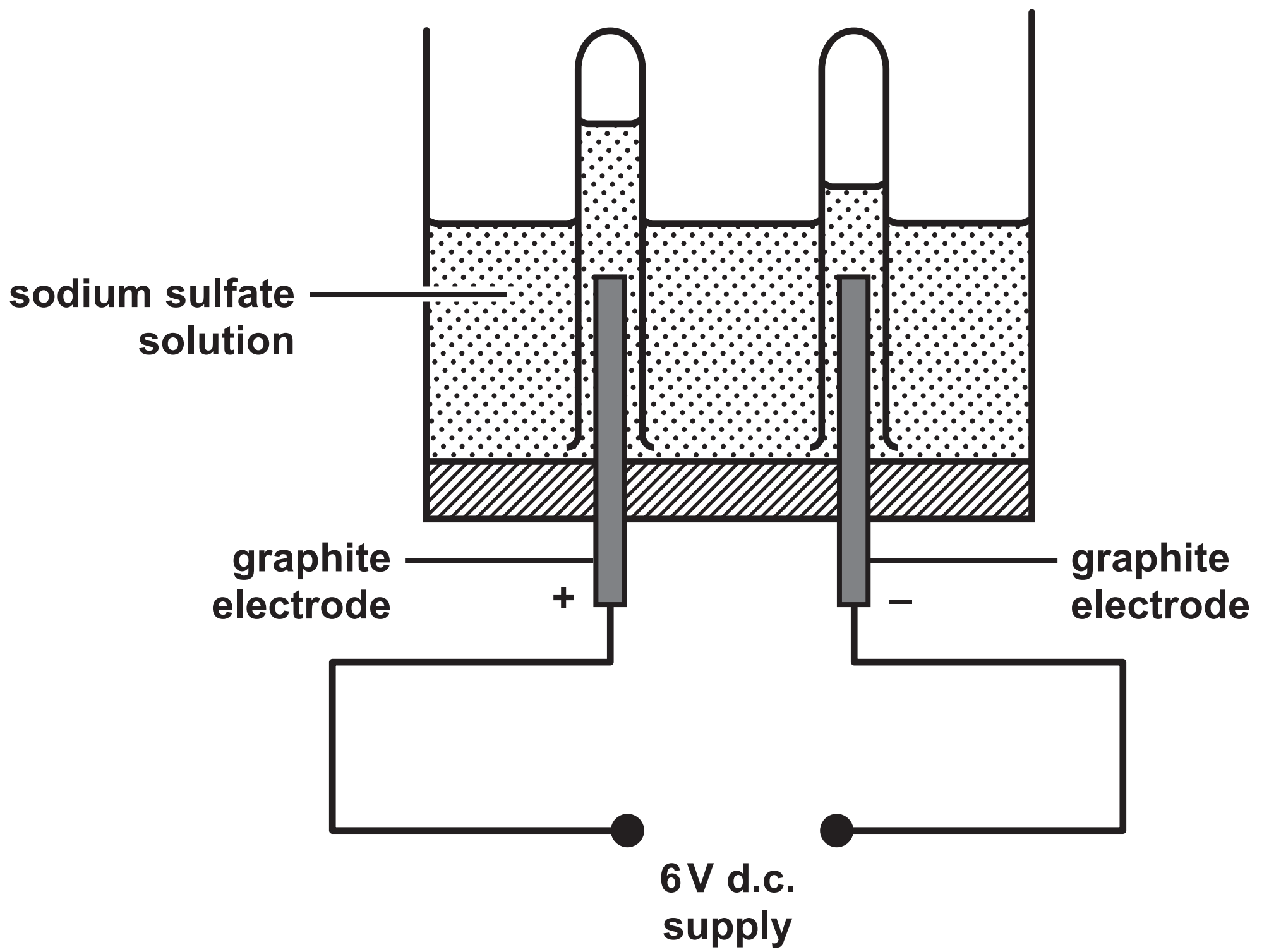
## Question 5(c)(ii)

FIGURE 9

<b>property</b>	<b>predicted property</b>	<b>actual property</b>
<b>relative atomic mass</b>	<b>about 68</b>	<b>70</b>
<b>density in g/cm<sup>3</sup></b>	<b>about 6·0</b>	<b>5·9</b>
<b>melting point</b>	<b>lower than 40 °C</b>	<b>29·8 °C</b>
<b>density of oxide in g/cm<sup>3</sup></b>	<b>about 5·5</b>	<b>5·9</b>

## Question 6(c)

FIGURE 10



## Question 6(c)(i)

## FIGURE 11



## Question 6(c)(i)

## FIGURE 11



## Question 7(b)

FIGURE 12

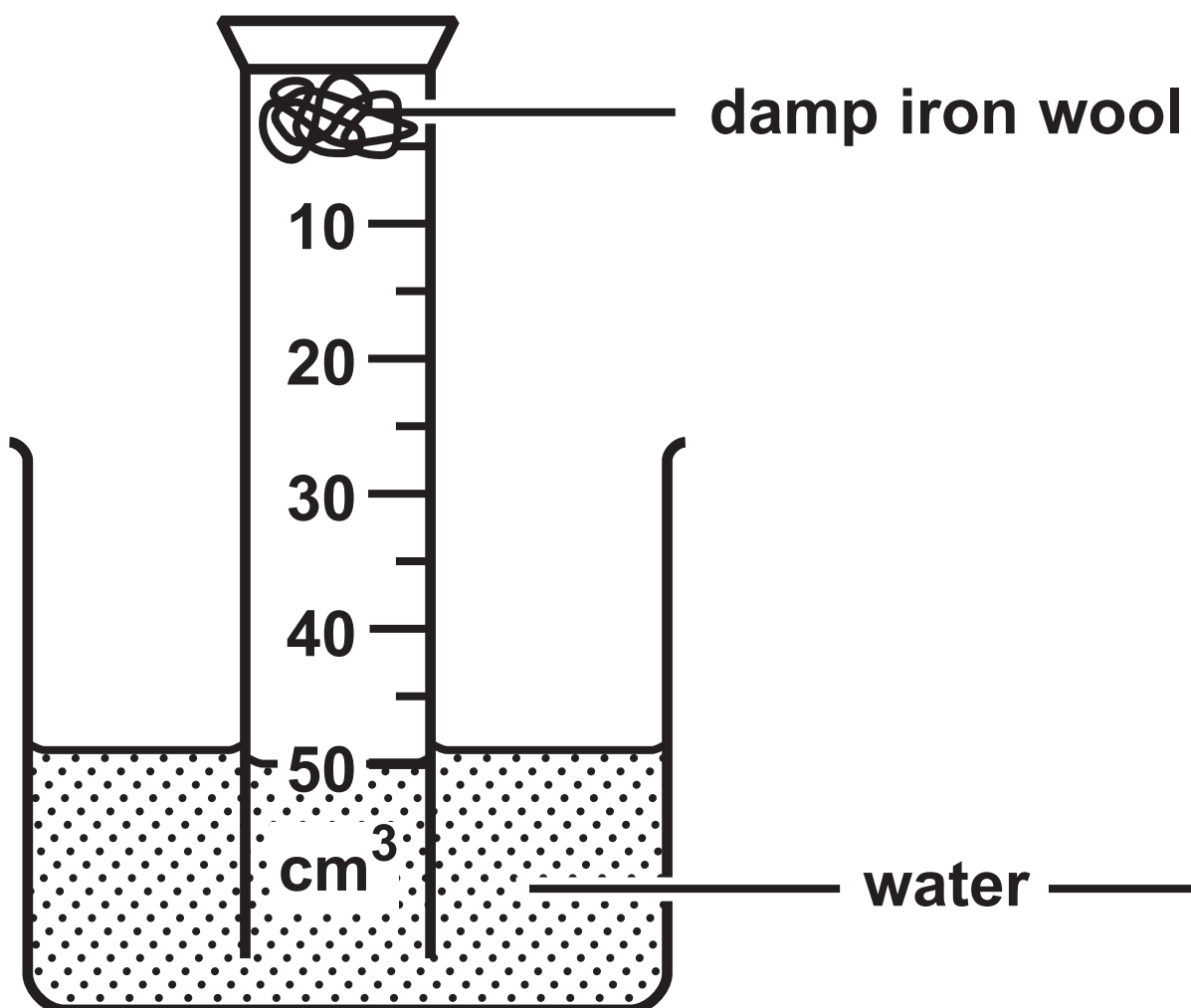
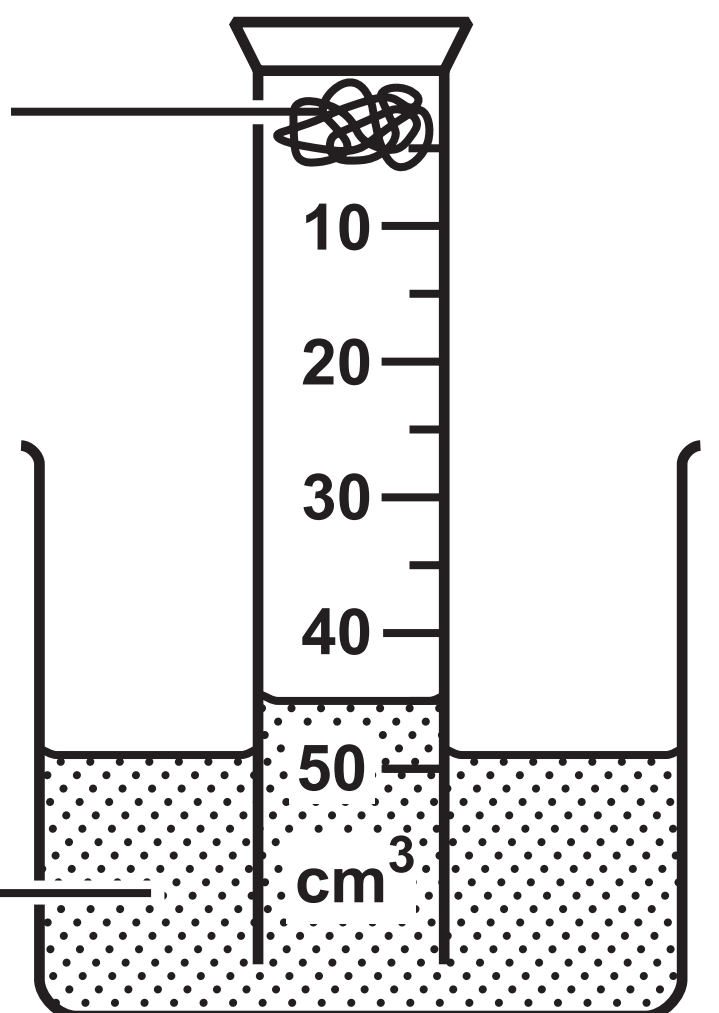


FIGURE 13



Question 8(b)(iv)

pH of the  
mixture


mass of barium hydroxide in g



Question 8(b)(iv)

pH of the  
mixture


mass of barium hydroxide in g

Question 8(c)

FIGURE 15



Question 10(a)

FIGURE 16

	mass in g
mass of sucrose	100.00
mass of ethanol obtained from the reaction	8.07
theoretical mass of ethanol formed	53.80