

WORKED SOLUTIONS

Worked Solutions for CSEC® Examinations 2012–2016

Chemistry

Derek McMonagle



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FOR CSEC[®] EXAMINATIONS
2012–2016

Chemistry

DEREK McMONAGLE

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1 INTRODUCTION

What is this book about?

This book is your companion to the Caribbean Examinations Council (CXC) Secondary Education Certificate examination (CSEC) in Chemistry.

It contains five sets of 60 multiple choice questions similar to those that will appear on Chemistry Paper 01, together with answers to these questions.

It also contains complete answers to the questions set on the Chemistry Paper 02 in the May/June series of examinations between the years 2012 and 2016.

In addition to the answer to each question, an appropriate explanation is given so you don't just get the right answer but, more importantly, you can see how it has been worked out. There is also an indication of how the marks are distributed so you can see how you might get partial credit for an answer even if it isn't totally correct.

How can I use this book?

This book is designed to help you to increase your knowledge of chemistry and improve your chances of success in your forthcoming examination.

One of the best ways for you to find out exactly what you know (or don't know) and how well you can organise your knowledge is to try to answer actual examination questions taken from past papers.

In addition to examination questions, there is a chapter on how to revise. This will help you to draw up a revision timetable, and show you how to stay focused on what you have to do. The chapter also includes tips from experienced examiners on how to avoid throwing away marks by making silly mistakes and how to squeeze out those few extra marks by writing down what you know in the clearest possible way. Those few extra marks just might earn you a higher grade.

This book is a very flexible revision aid and you can use it in different ways depending on what best suits your revision programme.

At the end of your revision programme you could simply try to answer the questions on the examination papers to check how much chemistry you know by comparing your answers with those in this book.

However, this book allows you to make far better use of the examination questions as an actual part of your revision programme.

At the back of the book there is a **Table of Topics from the Chemistry Syllabus**.

This is a list of short topics which together cover the entire content of the chemistry syllabus. Alongside each topic there is a list of questions about that topic that appears in the multiple choice tests and in the 2012–2016 examination papers.

- A hard and daunting task, like revising for your chemistry examination, is often made easier by breaking it down into smaller parts. You may decide to organise your revision programme topic by topic and

test yourself at the end of each topic. Each time you complete a topic you will have the satisfaction of knowing a little more and that will give you the confidence to carry on with your studies.

- You may be having trouble with particular topics. You can use the topic list to identify the questions about these topics very easily and concentrate your time on them. This might be useful at the end of your revision when time is short.

After completing the questions, you might like to compare your marks with the grade indicators provided by the examination board. This will give you some idea of what grade you are likely to get in your forthcoming examination.

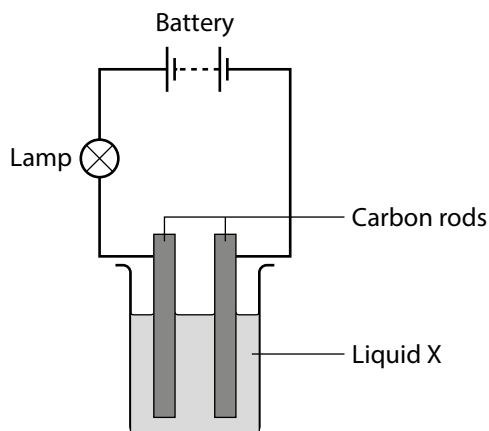
There is far more to this book than simply providing a set of correct answers. Read the explanation given for each question carefully, even if you got the question correct. It will help you to organise your answers in order to get all of the marks available. You will be able to apply much of the advice given on examination technique and organisation when you come to answer the questions in your examination.

3 CHEMISTRY – PAPER 01 – MULTIPLE CHOICE QUESTIONS

Paper 01 Test A

1. Which of the following is the balanced equation for the reaction between aqueous silver nitrate and aqueous sodium iodide?
- A** $\text{AgNO}_3(\text{aq}) + 2\text{NaI}(\text{aq}) \rightarrow \text{AgI}(\text{s}) + \text{Na}_2\text{NO}_3(\text{aq})$
- B** $\text{AgNO}_3(\text{aq}) + \text{NaI}(\text{aq}) \rightarrow \text{AgI}(\text{s}) + \text{NaNO}_3(\text{aq})$
- C** $\text{Ag}(\text{NO}_3)_2(\text{aq}) + \text{Na}_2\text{I}(\text{aq}) \rightarrow \text{AgI}(\text{s}) + 2\text{NaNO}_3(\text{aq})$
- D** $\text{Ag}_2\text{NO}_3(\text{aq}) + \text{NaI}_2(\text{aq}) \rightarrow 2\text{AgI}(\text{s}) + \text{NaNO}_3(\text{aq})$
2. The lithium ion (Li^+) has a mass number of 7 and an atomic number of 3. Which two of the following does the ion contain?
- I 3 protons
- II 3 neutrons
- III 4 protons
- IV 4 neutrons
- A** II and III
- B** I and IV
- C** II and IV
- D** I and III
3. Which of the following salts are appreciably soluble in water?
- I Ammonium chloride
- II Barium sulfate
- III Lead iodide
- IV Potassium bromide
- A** I and III
- B** II and III
- C** I and II
- D** I and IV
4. The atoms of element X contain 15 electrons. Which of the following elements is in the same group of the Periodic Table as element X?
- A** Carbon
- B** Chlorine
- C** Nitrogen
- D** Oxygen

5.



The lamp will light brightest when liquid X is

- A** deionised water
 - B** dilute sulfuric acid
 - C** methanol
 - D** sea water
6. In an endothermic reaction
- A** more energy is needed to break bonds than is released when new bonds are formed
 - B** no bonds are broken therefore no energy is needed
 - C** less energy is needed to break bonds than is released when new bonds are formed
 - D** the amount of energy needed to break bonds is equal to the amount of energy released when new bonds are formed
7. Which of the following elements forms an ion with an oxidation number of +1?
- A** Iron
 - B** Potassium
 - C** Iodine
 - D** Calcium
8. When a substance evaporates it changes from
- A** a liquid to a gas
 - B** a solid to a gas
 - C** a liquid to a solid
 - D** a solid to a liquid