

## **TIPS FOR CHEMISTRY REVISION – TOP TEN**

### **1. Plan your revision around the exam paper.**

It is very important that you know the layout of the paper and the parts of the syllabus that will be examined in each question. When revising for the Leaving Certificate examination, it is wise to organise your revision around the exam itself, i.e. plan your revision on each section of the syllabus and the corresponding questions on past exam papers rather than revising chapter by chapter in the textbook.

### **2. Know the structure of the paper.**

Make sure that you are familiar with the requirements of the exam paper as well as the format (layout) of the paper. Of the 11 questions on the exam paper, you must answer 8 questions in 3 hours, i.e. an average of 22.5 minutes per question.

It is unwise to attempt more than 8 questions as only your best 8 questions will be taken into account so time spent on a ninth question is wasted.

### **3. Choose the questions carefully.**

Make sure that you pick the 8 questions in which you feel that you can perform best. In deciding your best 8 questions, it is very important to read each question thoroughly. Section A consists of three questions based on the mandatory experiments. Section B consists of eight questions drawn from various other areas of the syllabus. It is possible to be also examined on the mandatory experiments in Section B.

You must attempt at least two of the questions in Section A. When you have attempted two of the questions in Section A, you must attempt any six other questions from the remaining questions on the paper. You may attempt all three questions on practical work if you wish.

### **4. Pay particular attention to the Mandatory Experiments.**

Questions 1 – 3 are based on the 28 mandatory experiments listed in Chemistry Live. Note that a clear pattern has been followed to date, i.e. question 1 involves volumetric analysis, question 2 tests your knowledge of the organic practical work, and question 3 is based on the other practicals outside the areas of volumetric analysis and organic practical work.

It is best to be prepared to answer all three questions on practical work in case your choice is limited by the particular questions asked in Section B. Therefore, study the mandatory experiments very carefully!



#### 4. The “sweeper” question.

Question 4 is usually a very popular one and most students perform well on it. Question 4 always consists of 11 short items and you must answer 8 of these items. It is wise to attempt all of these short questions as your best 8 questions will be taken into account.

This question is a form of “sweeper” question, i.e. it examines those areas that have not been examined in the full questions on other areas of the syllabus. Each question only involves a short answer so do not spend more than 2 –3 minutes on each question. The questions typically involve stating definitions, giving short descriptions, stating brief contributions of scientists, drawing structural formulas, balancing equations, etc.

#### 5. Study the major topics carefully.

In questions 5 – 9, there are certain major topics that are examined consistently:

- Atomic Structure, Periodic Table, Chemical Bonding
- Organic Chemistry
- Fuels and Thermochemistry
- Rates of Reactions / Chemical Equilibrium
- Acids and Bases, pH, water



Pay particular attention to **organic chemistry** in your revision as it plays such an important part on the exam paper. Although the topic of **instrumentation** is a minor topic on the syllabus, it has been given emphasis from time to time on the examination paper. So make sure you do not leave out this topic in your revision!

#### 6. Keep the marking scheme in mind.

The exam paper is marked by the examiner using a marking scheme. The entire paper is marked out of 400 marks. Since you must answer 8 questions, this means that each question is worth 50 marks. Most marks are given in bundles of 3. Therefore, if you see that part of a question is worth 15 marks, this means that the examiner is usually looking for 5 points.

Since marks are allocated in bundles of 3 and each full question is worth 50 marks, this means that, in some cases, more than 3 marks are allocated to a point.

For example, in question 4, each short question is worth 6 marks and an extra mark is added to the first two parts that you get fully correct. This increase in allocation of marks above 3 marks occurs in every question, and is usually indicated on the paper. For example, the first part of questions 1, 2, 3, 5, 6, 7, 8 and 9 is usually assigned 5 or 8 marks. Also, in questions 10 and 11, you will see parts of questions allocated marks like 4, 5, 7 and 8.

### 7. Study the key areas in the last two questions.

Questions 10 and 11 are usually popular questions since they have an internal choice in each question, i.e. two parts out of three parts must be attempted. Note that there are certain key areas that are regularly examined.

- Stoichiometry
- Industrial Chemistry / Atmospheric Chemistry OR Materials / Extraction of metals
- Properties of Gases
- Acids and Bases, pH scale and calculations on pH



In addition, you may be examined in areas like Rates of Reaction, Equilibrium, Thermochemistry, Trends in the Periodic Table, Instrumentation, etc., depending on the extent to which these topics have been examined in the other main questions.

### 8. Pay close attention to the terminology used.

The terms used on the examination paper and the marks allocated to each part of the question give you a good indication of the depth required when answering the question. The terms may be divided into a number of categories:

**(i) Terms requiring a short answer**

Words like *define, name, identify, state, what, list, give*, etc. are commonly used to test your **recall** of material. Marking schemes simply require a brief reply so simply state the answer and carry on to the next question.

**(ii) Terms requiring a more detailed answer**

Words like *discuss, explain, account for, describe, outline* are used to test your **understanding** of the topic. Since these terms require a more detailed answer, it is important that you give a number of points in your answer.

**(iii) Terms requiring you to distinguish between items**

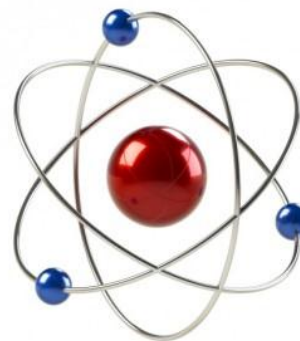
If you are asked to *distinguish* between items, simply give a definition of each item.

### 9. Pay close attention to the following points on the examination paper:

- If you are asked to *name* a compound and you write down its *formula*, you are unlikely to be awarded any marks. Similarly, you will not get any marks if you are asked for the *formula* of a compound and you give the *name* instead! If you are asked to *identify* a compound, either the *name or formula* is acceptable.
- It is absolutely vital that you show all your **calculations** clearly. Lay out your work so that the examiner can follow each step of your calculation.
- If you are asked a question like 'State the colour change at the end point', remember that you must write down **two** colours, i.e. the colour at the beginning and the colour when the end point has been reached. Do not get confused about the

terms *clear* and *colourless*. Remember that a clear solution can be coloured, e.g. a solution of copper sulphate is blue.

- When asked to describe a procedure for a particular experiment, always **number each step** and **leave a blank line** between each step. Numbering each step will help you to mentally work through the procedure. Leaving the blank line helps you to fill in any point you may have forgotten.
- Always **draw a labelled diagram** when describing an experiment. A labelled diagram saves a lot of writing and is a very good way of earning marks. If you are asked a question containing the phrase 'What do you observe?', remember that you must describe what you see happening, e.g. bubbling, colour change, etc.
- Make sure you have learned each of the **definitions** in boxes in the Chemistry Live textbook.
- When drawing a graph, make sure that you fill most of the page, that the axes are labelled with the name and unit and that the points on the graph are clearly shown. Also, if asked to calculate the instantaneous rate from the graph, do not forget to give the units of instantaneous rate!
- If asked for safety precautions for an experiment, use your common sense! For example, if you are preparing a flammable gas, then the gas preparation apparatus should be kept away from the Bunsen burner. Always wear safety glasses since, if there is a risk of an explosion, your eyes could be injured. Always use Quickfit apparatus or airtight stoppers to prevent gas escaping. Use heat resistant gloves to prevent burns when handling hot glassware.



## 10. Study the entire syllabus.

Do not leave out any section of the course. For example, if you find it difficult to solve problems on equilibrium, you may be tempted to leave out this part of the course. However, you could be asked a question on equilibrium in question 4 or in Section A. At the very least, make sure you have revised the key points on equilibrium