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Cambridge IGCSE

Computer Studies

Coursebook

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Introduction

Welcome to the new, full-colour *Cambridge IGCSE Computer Studies*. Like its companion volume, *Cambridge IGCSE ICT*, this book has evolved from *IGCSE and O Level: Computer Studies and Information Technology*. While drawing on many of the topics in the parent book that are relevant to Computer Studies, this new text has been extensively revised and considerably enlarged, for two main reasons:

- to focus clearly on the *Cambridge Local Examinations Syndicate* IGCSE examination in Computer Studies (syllabus 0420) including the exam board's latest house style for presenting pseudocode and logic gates in exam papers;
- to update the content with recent developments in computer technology and its effects on our lives.

In making these changes, we have:

- ensured that explanations are as accessible as possible to students and included a Glossary at the end of the coursebook, which gives definitions for all the key terms presented in bold type in the text;
- included practical examples of the devices, processes and methods being explained;
- included brand-new short, self-assessment questions throughout the text;
- revised and updated the questions for individual work and class discussion;
- refreshed the design, making full use of colour and photographs where possible;
- created a brand-new CD-ROM, loaded with materials to improve your chances in the examination.

The coursebook is designed to help students studying for the *Cambridge Local Examinations Syndicate* IGCSE examination in Computer Studies (syllabus 0420). It provides support for: the compulsory question paper, Paper 1, syllabus Sections 1–5; the coursework, Paper 2; and the alternative to coursework question paper, Paper 3, syllabus Section 6. On the CD-ROM, we have supplied material for revision of the coursebook material and further support with exemplar answers and our examiner's comments for tackling Papers 1, 2 and 3.

We have divided the coursebook into three parts: Part I deals with the theory of computer technology, Part II deals with applications of the technology and Part III deals with programming and logic gates. Each chapter begins with a list of learning objectives (headed 'When you have finished this chapter you will be able to:'), which is intended to provide a skeleton upon which to hang the detail provided in the text. Also, each chapter ends with a summary of the specific points that have been covered, which is intended to assist students when they revise, by providing a short overview of the contents to allow students to be confident in their grasp of the material.

Throughout each chapter, specific syllabus codes alongside subheadings show which sections of the syllabus are being addressed, as follows:

The text aims to encourage an active learning style and includes many self-assessment questions as well as varied longer-answer questions and tasks, while maintaining a structured approach to the learning process.

Self-assessment questions require short answers only, and are intended to allow students to check their understanding of the material as they move through the coursebook. Answers to these questions are provided at the end of the coursebook. The self-assessment questions are indicated in the text by a box with an icon like this:

Longer-answer questions are of two types. These questions are contained in a purple box labelled 'Questions', as follows:

Questions

Some questions are related directly to the requirements that students will find when they sit their examination. These questions are intended to stretch the students more than the SAQs do, and let them demonstrate their understanding of the concepts being taught. These questions are related to the text and are intended to form a starting point for activity in class or for individual work. They are indicated in the text by an icon like this:

Other questions are more broadly based and are intended to encourage the students to find out about a small area of the course, and are often suitable for classroom discussion as well as independent thinking. We find this type of work to be especially effective because it allows students to formulate their own answers – there is often no single right answer to the question. These questions are indicated with an icon like this:

Finally, there are extension questions and tasks. These include concepts, examples or thinking that fall beyond the strict boundaries of the syllabus. However, addressing these questions will nevertheless deepen students' understanding of and appreciation for the concepts being presented. Each of these pieces of work is meant as a starting point which may interest students, particularly the more able, and encourage them to do some independent enquiry into a topic.

It must be stressed that this work is not an integral part of the syllabus requirements and can be omitted without prejudicing attainment in the examination. These materials are contained in a green box, labelled 'Extension', like this:

Extension

The CD-ROM contains many categories of material:

- *Learning and revision guide*, with useful tips on study skills
- *Tackling the exam papers*, with useful tips on exam technique
- *Exemplar answers and comments for Paper 1*, with exemplar answers, fuller lists of how to get marks and comments indicating common pitfalls or giving some explanation of why certain answers are correct or how the marks are awarded
- *Answers to examination practice for Paper 3*, providing exemplar answers, fuller lists of how to get marks and comments for end-of-chapter *Examination practice for Paper 3* questions
- *Mock exam papers and mark schemes*, for both Paper 1 and 3
- *Guidance on the coursework (Paper 2)*
- *Guidance for Paper 3 (Alternative to coursework)*
- *Revision notes*, *Revision questions (with answers)* and *Revision tests* (with answers) to ensure that students' revision for Paper 1 goes smoothly

We hope that this resource is both useful and interesting to the reader, and helps them achieve a good grade in the *Cambridge Local Examinations Syndicate* IGCSE in Computer Studies.

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