



J276/01- Computer Science Topics

Exam Revision & Homework



* Please note you can use **Read Me PowerPoints**, **Watch Me videos**, **dynamic learning** and **other resources** for each topic below in **RM Shared network** to revise.

* If you need **help** with any topics that you find difficult, highlight the topic, ask your teachers and attend CS clubs.

Main CS GCSE Topics <input checked="" type="checkbox"/>	Workbook & Homework <input checked="" type="checkbox"/>	Book (reading/revision)
1.1) Systems Architecture •	Q 1- Computer Systems p. 1 • Q 2- Computer Architecture p. 3 • Q 3- The CPU p. 5 • Q 4-The CPU 2 p. 7 • Q 5-Coding instructions p. 9 •	• OCR textbook: Page 6-16 • eBOOK: Page x
1.2) Memory •	Q 6- RAM, ROM, Virtual Memory p. 11 •	• OCR textbook: Page 16-22 • eBOOK: Page x
1.3) Storage •	Q 7- Storage Technologies & Media p. 13 • Q 8- Storage Devices p. 15 •	• OCR textbook: Page 22-30 • eBOOK: Page x
1.4) Wired & Wireless Networks •	Q9- Network Classifications & Server Types p.17 • Q10- The internet p. 19 • Q11- The internet 2 p.21 • Q 12- Network Types p. 23 • Q 13-Network Hardware p. 25 •	• OCR textbook: Page 30-38 • eBOOK: Page x
1.5) Network topologies, protocol & layers •	Q 14-Network Topologies p.27 • Q 15-Network Protocols p. 29 • Q 16- HNetwork Communication p.31 • Q 17-Ehternet & Network Layers p. 33 • Q 18-Wifi and Network Performance p. 35 •	• OCR textbook: Page 39-57 • eBOOK: Page x
1.6) System Security •	Q 19- Computer Security- Methods of Attack p.37 • Q 20- Computer Security-Methods of Attack2 p.39 • Q21- Computer Security- Malware p.41 • Q 22- Computer Security- Malware 2 p. 43 • Q 23- Computer Security- People p. 45 •	• OCR textbook: Page 57-76 • eBOOK: Page x
1.7) Systems software •	Q 24- Opearting System p.47 • Q 25- Utility Softwarre p.49 •	• OCR textbook: Page 76-99 • eBOOK: Page x
1.8) Ethical, legal, cultural & environmental concerns •	Q26-Legislation p.51 • Q 27- Ethics, Culture & the Environment p. 53 • Q 28- Open Source & Proprietary Software p. 55 •	• OCR textbook: Page 185-199 • eBOOK: Page x



J276/02- Computer Science Topics (1)

Exam Revision & Homework



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Main CS GCSE Topics <input checked="" type="checkbox"/>	Workbook & Homework <input checked="" type="checkbox"/>	Book (reading/revision)
2.1) Algorithms • 2.1.1) Computational thinking • 2.1.2) Standard sorting algorithms • 2.1.1) Produce algorithms using flowchart & pseudo code •	Q 33- Sorting 1- Bubble Sort p. 65 • Q 34- Sorting 2- Insertion Sort p. 67 • Q 35- Sorting 3- Merge Sort p. 69 • Q 33- Sorting 1- Bubble Sort p. 65 • Q 34- Sorting 2- Insertion Sort p. 67 • Q 35- Sorting 3- Merge Sort p. 69 • Q 36- Flow Diagram 1 p. 71 • Q 37- Flow Diagram 2 p. 73 •	• OCR textbook: Page 99-116 • eBOOK: Page x
2.2) Programming Techniques • 2.2.1) Use of variables, constants, operators, input, output & assignments • 2.2.2) Data types • 2.2.3) Numeric operation • 2.2.4) Use if sequence, selection & Iteration, IF statement & Boolean operators • 2.2.5) Nested IF & SWITCH-CASE statements • 2.2.6) While, DO-UNTIL Loops, FOR Loops • 2.2.7) Arrays • 2.2.8) 2D Arrays • 2.2.9) String • 2.2.10) File Operation (Open, Read, Write, Close), use of records to store data • 2.2.11) How to sub programs (Functions & Procedures) to produce structured code •	Q 38- Assignment, variables, constants & sequence p. 75 • Q 39- Data Types p. 77 • Q 40- Input, Output & Casting p. 79 • Q 41- Data Types p. 81 • Q 42- IF statement & Boolean operators p. 83 • Q 43- Nested IF & SWITCH CASE statements p. 85 • Q 44- WHILE, DO-UNTIL Loops p. 87 • Q 45- FOR Loops p. 89 • Q 46- Data Types p. 91 • Q 47- Data Types p. 93 • Q 48- String Manipulation p. 95 • Q 49- String Manipulation 2 p. 97 • Q 50- File Operations p. 97 • Q 51- Procedures p. 99 • Q 52- Functions p. 101 •	• OCR textbook: Page 116-136 • eBOOK: Page x





J276/02- Computer Science Topics (2)

Exam Revision & Homework

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Main CS GCSE Topics <input checked="" type="checkbox"/>	Workbook & Homework <input checked="" type="checkbox"/>	Book (reading/revision)
2.3) Producing Robust Programs • 2.3.1) Databases, SQL, use of SQL to search for data • 2.3.2) Defensive design consideration: input sanitation/validation, planning for contingencies, anticipating misuse, authentication • 2.3.3) Maintainability: comments and indentation• 2.3.4) Purpose of testing, type of testing: (Iterative, Final/terminal), syntax/logic errors, selecting & using suitable test data •	Q 53- Databases p.103 • Q 54-SQL p. 105 • Q 55-Authentication, Misuse & Contingencies p.109 • Q 56- Validation & Verification p.111 • Q 57-Comments & Readability p.113 • Q 58-Errors & Testing p.115 •	<ul style="list-style-type: none">• OCR textbook: Page 136-146• eBOOK: Page x
2.4 Computational Logic •	Q 68-Logic Gates p. 135 •	<ul style="list-style-type: none">• OCR textbook: Page 168-174• eBOOK: Page x
2.5) Translators and facilities of languages•	Q 75-Assemblers,Compilers & Interpreters p.149 • Q 76- IDEs p. 151 •	<ul style="list-style-type: none">• OCR textbook: Page 174-185• eBOOK: Page x
2.6) Data Representation • 2.6.1) Units • 2.6.2) Numbers (Binary, Denary, Hexadecimal), Binary Shifts • 2.6.3) Character Set (ASCII) • 2.6.4) Images •	Q 59- Computing Units p. 117 • Q 60- Binary p. 119 • Q 61- Binary to Denary Conversions p. 121 • Q 62- Denary to Binary Conversions p. 123 • Q 63-Binary Addition p. 125 • Q 64-Hex. to Denary Conversions p. 127 • Q 65-Denary to Hex. Conversions p. 129 • Q 66- Hex. and Binary. Conversions p. 131 • Q 67-Binary Shifts p. 133 • Q 69- Character Sets (ASCII) p. 137 • Q 70- Character Sets (Unicode) p. 139 • Q 71- Image & Pixels p. 141 • Q 72- Image Size p. 143 • Q 73- Digitising Sound p. 145 •	<ul style="list-style-type: none">• OCR textbook: Page 146-168• eBOOK: Page x





2.6.5) Sound •

2.6.6) Compre

J276/01 & J276/02 Units

Revision Resources

Revision resources:

- 1) 'OCR GCSE (9-1) Computer Science' book (by: George Rouse and Sean O'Byrne)
 - 2) My Revision Notes OCR Computing for GCSE Computer Systems & Programming' for students
 - 3) Ebook- The Edition 2 of this textbook (by Susan Robson)
 - 4) RM Shared Network
 - 5) VLE
 - 6) GCSE Website: <http://www.gcsecomputing.org.uk/>
(Student login detail: Username: HP43AH
Password: Ashlyns)
 - 7) Dynamic Learning <http://my.dynamic-learning.co.uk/>
(Student login detail: Username: SchoolGoogleAccount
Password: YourPassword.G
Centre ID: 23540)
 - 8) Teach-ict <http://www.teach-ict.com/xml/submainlogin.php>
(Student login detail: Username: HP4 3AH
Password: Ashlyns)
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- 9) BBC Bitesize <http://www.bbc.co.uk/education/subjects/z34k7ty>

