

**Subject: GCSE Computing**

**Exam Board: OCR**

**Date of exam (Provisional):**

J277/01 Computer systems 1 h 30 min Wed 13 May pm

J277/02 Computational thinking, algorithms and programming 1 h 30 min Tue 19 May pm

Revision Strategies:

**Understand the Structure of the Course**

**Paper 1: Computer Systems**

- Systems architecture
- Memory & storage
- Computer networks, connections, and protocols
- Network security
- Systems software
- Ethical, legal, cultural, and environmental issues







**Paper 2: Computational Thinking, Algorithms, and Programming**

- Algorithms
- Programming fundamentals
- Producing robust programs
- Boolean logic
- Programming languages and Integrated Development Environments (IDEs)

**Use a Topic Checklist**

Create a checklist and mark off each topic as you gain confidence. This helps you **prioritise weak areas** and track progress.

**Example for Paper 1 — Systems:**

Topic	Confident?	Needs Review?
CPU Components		
Fetch–Decode–Execute Cycle		
Sorting Algorithms		
Logic Gates		

**Active Recall Over Passive Reading**

Computer Science involves a lot of definitions and processes, don't just reread notes.

Instead do the following:

- **Flashcards (Quizlet or Anki):**
  - E.g. Question: What does the ALU do? Answer: Performs arithmetic and logical operations.
- **Blurting method:**
  - Pick a topic, write everything you remember from memory, then check what you missed.
- **Teach someone else:**
  - Explaining CPU architecture or networking out loud massively boosts retention.

**Mind Maps for Big Topics**

Use mind maps to visualise links between ideas.

Example:

- “CPU Architecture” → ALU → CU → Registers → Cache → Performance
- “Networks” → LAN/WAN → Hardware → Protocols → Security

**How to use them:**

- Create one per topic. Redraw them from memory regularly.
- Use colour-coding to highlight key concepts and definitions.

## Practice Programming (Little and Often)

For Paper 2, you must be confident in Python.

Daily practice ideas:

- Write small programs using:
  - *Loops* (for, while)
  - *Selection* (if/elif/else)
  - *Functions*
  - *Arrays/lists*
  - *Input/output*
- Debug broken code.
- Trace code line by line (a common exam task).

## Master Algorithms and Logic

OCR loves questions where you must:

- Trace algorithms in pseudocode.
- Explain how sorting or searching algorithms work.
- Simplify Boolean logic.

### Strategies:

- Trace tables: Practice filling these accurately under time pressure.
- Flowcharts: Be able to read and draw them.
- Learn algorithms step-by-step:
  - Bubble sort, merge sort, linear search, binary search.
- Logic gates:
  - Draw truth tables for AND, OR, NOT, XOR.

## Use Past Papers — LOTS of Them

### Exam Technique Tips

#### For short questions (1–2 marks):

- Give concise, factual definitions using OCR wording.

#### For explain or discuss questions (3–6 marks):

- Use “Point → Explain → Example” structure.
- Always give examples where possible.

#### For trace/algorithm questions:

- Label each variable clearly.
- Double-check loops and conditions.
- Watch for off-by-one errors.

#### For extended response questions (8–9 marks):

- Structure with an intro, balanced argument, and clear conclusion.
- Include ethical, legal, and environmental angles when relevant.

## Stay Organised

### Example Weekly Revision Plan

Day	Focus	Tasks
Mon	CPU & Memory	Flashcards + 5 short exam Qs
Tue	Programming practice	Solve 2 coding problems
Wed	Networks	Draw mind map + quiz
Thu	Algorithms	Trace bubble & merge sort
Fri	Security	Revise threats + protections
Sat	Mock paper	Timed Paper 1
Sun	Review	Update checklist + fill gaps

## Useful websites and resources:

### Recommended textbooks

- OCR GCSE J277 Computer Science, Robson & Heathcote ISBN:978-1-910523-21-6
- ClearRevise OCR GCSE J277 Computer Science 978-1-910523-23-0
- GCSE Computer Science OCR Complete Revision & Practice
- CGP GCSE Computer Science OCR Exam Practice Workbook

### Online resources

- OCR GCSE (J277) Videos – Craig 'n' Dave knowledge video index  
<https://student.craigndave.org/j277>
- Exam Techniques & Command Words Parts 1-4:  
<https://www.youtube.com/watch?v=skTUGgD2ThE&t=2s>
- Download Guide to Exam technique: <https://craigndave.org/product/guide-to-exam-technique/>
- Practice exam questions  
<https://smartrevise.craigndave.org/>  
<https://www.physicsandmathstutor.com/past-papers/gcse-computer-science/>