



An exam is a performance **under time.**

Knowing the material and scoring on it are two different skills. This document covers reading the paper, allocating time by marks, two answer frameworks with worked plans, multiple-choice strategy, and an honest table of the small errors that quietly lose marks.

1 Performance under time, not a memory test

An examination rewards what you can produce accurately in the time available, not everything you know. The mechanics that make studying work — bringing answers back from memory and working at the edge of your ability — are the same mechanics an exam calls on.

"Testing is a powerful means of improving learning, not just assessing it."

Roediger & Karpicke (2006)

Rehearsing a real paper under time is therefore training, not just testing. Bjork and Bjork call the conditions that feel harder but produce more durable learning *desirable difficulties* (2011). A past paper answered cold teaches far more than the same paper answered with the book open.

EVIDENCE Roediger & Karpicke (2006), *Psychological Science*, 17(3), 249–255; Bjork & Bjork (2011), in *Psychology and the Real World* (pp. 56–64).

2 The first five minutes

Spend the opening minutes on the paper, not on question one. This is the cheapest time you will buy.

1 Read the instructions and the mark allocation

Number of questions, whether there is a compulsory section, and how the marks are split.

2 Note the marks beside every question

A 5-mark part and a 25-mark part are different jobs and need different time.

3 Choose by marks per minute, not by familiarity

The question you "like" is not always the one you can finish well in the time.

4 Decide the order before you write

Some students bank the sure marks first; some start on the hardest while fresh. Pick deliberately.

3 Choose by marks per minute

Divide the marks by the minutes you would spend to earn them well. A question you can answer thoroughly is worth more than a favourite topic you can only half-finish. The table works the arithmetic on a three-hour paper worth 100 marks — about 1.8 minutes per mark.

Question	Marks	Suggested time	Minutes per mark
Section A (compulsory, 4 short parts)	20	34 min	1.7
Section B, Q4 (essay)	25	47 min	1.9
Section B, Q5 (essay)	25	45 min	1.8
Section B, Q7 (numeric)	30	52 min	1.7
Reading the paper and checking	—	12 min	—

NOTE The allocation shown is an illustration of the method, not a rule. Read your own paper's totals and split its clock the same way before you write a word.

4 A marks-to-minutes sheet you can draw in ten seconds

Write the total marks, the total minutes and one line per question. Fill suggested time as $(\text{marks} \div \text{total marks}) \times (\text{total minutes} - 12)$, then round to the nearest five minutes. Keep the sheet on the corner of your desk and tick each block as you finish it.

Q	Marks	Minutes	Done
1	20	34	☐
4	25	47	☐
5	25	45	☐
7	30	52	☐

**5 Essay question — the 10 / 75 / 15 framework**

For a discursive question, spend roughly a tenth of the answer on the introduction, three-quarters on the argument, and the rest on the conclusion. The introduction states the position and the scope; the body earns the marks, paragraph by paragraph, each with a point and the evidence that supports it; the conclusion answers the exact question that was asked. Plan on the rough sheet first, so the proportions are decided while you are calm rather than discovered as you run out of time.

WORKED PLAN — "DISCUSS THE CASE FOR AND AGAINST PRICE CONTROLS IN A DEVELOPING ECONOMY." (25 MARKS)

Part	Skeleton	Evidence and link
Introduction ≈10%	Define a price control (a legal floor or ceiling). State the thesis: controls can protect the vulnerable in the short run but tend to create shortages, queues and informal markets unless enforced supply and targeting accompany them.	Set the scope: one or two staple goods; a low-income economy. No evidence yet — the reader only needs the position and the route.
Body 1 For	Controls hold down the price of a staple and protect the poorest households from a spike.	Link to affordability of basic food; note that a ceiling only helps those who can actually obtain the good.
Body 2 Against	A binding ceiling below the market price discourages supply and produces shortages.	Explain the shortage mechanism and its symptoms: queues, rationing, a parallel market at a higher price.
Body 3 Conditional	Outcomes depend on enforcement and on whether supply can respond.	Compare a price floor for producers (which can raise supply) with a ceiling for consumers (which can suppress it).
Conclusion ≈15%	Take a stance: controls are a blunt instrument; a targeted transfer or a supply-side measure usually serves the same goal with fewer distortions.	Return to the question's words ("for and against") and state the balance you judge correct. No new argument here.

Two failure modes are worth naming. The first is an introduction that narrates: "In this essay I will first discuss... then...". Examiners already know the structure; they want your position. The second is a conclusion that introduces a fresh argument the body never prepared — it reads as an afterthought and earns nothing.

NOTE The plan above uses ordinary economic reasoning, so it carries no citations. Where your answer relies on a published study, cite it (Document 06 covers how).

6 Numeric question — given → find → equations → substitute → answer → check

A numeric answer is marked for its method as much as its final number. Lay the work out in the same order every time, so a marker can follow it and award part marks even when the arithmetic slips.

- Given**
List the data with units, exactly as the question gives them.
- Find**
State the quantity requested, and the unit you will answer in.
- Equations**
Write the relationship before substituting any number.
- Substitute**
Insert values with units; carry units through the working.
- Answer**
Give the value, the unit and the significant figures.
- Sanity check**
Is the size and direction of the result reasonable?

SPECIMEN ANSWER AS A MARKER READS IT

Question. A sample has a mass of 5.00 g and a volume of 2.00 cm³. Calculate its density in kg/m³, to an appropriate number of significant figures.

Given. $m = 5.00 \text{ g} = 5.00 \times 10^{-3} \text{ kg}$; $V = 2.00 \text{ cm}^3 = 2.00 \times 10^{-6} \text{ m}^3$.

Find. ρ in kg/m³.

Equation. $\rho = m / V$.

Substitute. $\rho = 5.00 \times 10^{-3} \text{ kg} \div 2.00 \times 10^{-6} \text{ m}^3$.

Answer. $\rho = 2.50 \times 10^3 \text{ kg/m}^3$ (3 significant figures — the data carry 3).

Check. Denser than water (10³ kg/m³), which fits a solid sample of this mass and volume.

Two habits carry most of the marks here. Carry the unit through every line rather than attaching it at the end — a unit that has been tracked cannot go missing. And round only at the final step, choosing the number of significant figures the data themselves justify rather than the number the calculator displays.

STANDARDS Units and their conversion follow the SI (BIPM, *The International System of Units*, 9th ed., 2019). Rounding and significant figures follow IUPAC, *Quantities, Units and Symbols in Physical Chemistry* (Green Book, 4th ed., abridged, 2023).



7 Multiple-choice strategy and the final ten minutes

MULTIPLE CHOICE

- Answer the **easy ones first** and mark the rest; momentum and a fair score come early.
- Read the **stem to the end**. "Which is NOT..." changes the whole question.
- Eliminate before you choose**. Two wrong options removed is often enough to decide.
- Change an answer **only for a reason**, not because you have looked at it a third time.

THE LAST TEN MINUTES

- Check every question is attempted** — an unanswered part scores nothing.
- Check units and significant figures** on numeric answers.
- Finish half-written sentences**. A clear closing line earns more than an unfinished idea.
- Make sure the number in your answer** matches the number in the question.

Multiple choice runs on the same time budget as everything else — about a minute per mark and no more. If an item is taking longer than its share, choose your best option, mark it for review and move on; one stubborn question should not cost you three others.

8 What actually loses marks

The habit	Why it costs marks
Leaving parts unanswered	Blank space cannot be credited, even when the rest of the question is strong.
No units, or the wrong ones	A correct number with no unit is an incomplete answer, and frequently wrong in meaning.
Unsupported assertion	A claim with no reason and no evidence cannot earn reasoning marks.
Answering the question you hoped for	A well-written answer to a different question scores little; return to the exact wording.
Planning only in your head	Structure that was never written down is lost two paragraphs in.
Wrong verb level	"Describe" where the question says "evaluate" misses the higher marks — match the command word.
Illegible working	A marker cannot award what cannot be read; show steps clearly and in order.
Rounding too early	Rounding at each step changes the final answer; keep full precision until the last line.
Method with no stated result	A page of equations and no final value is not an answer; state the result with its unit.

NOTE Command words such as "describe", "explain" and "evaluate" set the level of thinking required. This is the instructional-word point made by the University of Bolton, LEAP Online (2023): "Command words, also known as instructional or directive words, are often verbs that explain how you should answer the question."

9 A blank plan, and the exam morning

ANSWER-PLAN TEMPLATE — COPY THIS ONTO YOUR ROUGH SHEET

Line	Fill in before you write
Q and marks	Question number · marks · minutes allowed
Command	Describe / explain / evaluate / calculate / discuss
Thesis / plan	One line: the position or the method
Body points	Point — evidence — link, one row each
Close	The sentence that answers the question
Check	Units · sig figs · all parts answered

EXAM-MORNING ROUTINE

- Eat and hydrate**. A long paper is a physical task as well as a mental one.
- Skim one summary sheet** — not new material — for confidence, not cramming.
- Arrive early** with everything laid out: pens, calculator, student card.
- In the room, write your plan** for each chosen question before writing prose.

NO TECHNIQUE SUBSTITUTES FOR KNOWING THE MATERIAL

Timing, frameworks and multiple-choice tactics protect the marks you have earned; they do not manufacture marks you have not. The work that produces the marks happens in the weeks before — see Document 01. Nothing in this document promises a grade.