

Advice On Doing the Physics Units 3 & 4 Exam

Times and Marking Scheme

The exam lasts 150 minutes and is out of 130 marks. It has a short Section A and a long Section B.

Section A will have 20 multiple choice questions, each worth one mark, which should mean about one minute per question, but some questions will require more time because of extra text to read and calculations to do. So you should allow about 25 - 30 minutes. You should also consider whether you do Section A at the beginning or at the end of the exam.

Section B will have about 18 broad questions with parts. It will be a mixture of styles requiring a numerical response, a written explanation or graphing. The questions will not be grouped by Area of Study, but mixed up throughout the paper. There will be a range of 2, 3 and 4 mark questions and possibly ones with more marks.

Am I on schedule?

Because the questions are not grouped by Area of Study it is not easy to mark your progress through the paper. So on your four page summary, you should include a schedule of when you should get to questions 5, 10, and 15 for example.

Reading Time (15 minutes)

This can be very useful. It can represent an extra 10% of time if used efficiently. You could do some or all of the following:

- Spend a few minutes browsing through the paper.
- Check through Section A for questions that can be answered just by thinking about the question, rather than requiring some calculation. Work these answers out in your head, so that you can then write them down as soon as the exam begins.
- For longer “explain type” questions, begin thinking about the points that could be relevant.
- Look through the formula sheet supplied with the exam.
- As you read each question, ask yourself “can the formula sheet or my summary help?”

Doing the Exam

Once you start Section B, it is best to work through to the end.. It is not advisable to tackle the easy questions first. The thinking time in deciding whether a question is easy or hard, is wasted if you decide to leave the question to later. Your time is precious, your task is like building a stone wall, once you pick up a stone, you put it someway, you don't put it back to find a better stone.

Answer Every Question or What do you do when you get into Difficulties

Always answer every question, even if you are not sure of the answer. Some advice:

- Underline the key physics words and measurements in the question, in fact, do this with every question.
- Check the formula sheet and your summary for any ideas or relationships that you could use.
- The space for the answer includes the units for the answer, this can be a clue at times.
- For multiple-choice questions, you should be able to eliminate the obvious wrong answers and increase your chance of guessing the right answer. Use common sense in checking your answer to see if it is physically reasonable.
- When you have no idea for a written answer question, writing down the important concepts and relationships may get you a mark.
- If a “3 or 4 mark” question is taking more than 3 or 4 minutes to find an answer, it may be time to asterisk it as a question to come back to later.

Attitude while doing the Exam

Remember if you are finding the exam fairly hard, don't panic, because the rest of the state is probably also finding it hard. The reverse also applies.

Read the Question Carefully!

The exam will have many instances where you have to read a graph or interpret data. In many cases the values will need to be converted to SI units, e.g. cm \rightarrow m, kN \rightarrow N.

Handy Hints of Doing Physics Questions

Advice	Reason
Highlight data and important information as you read the question.	Questions occur in blocks. A later question may use data from the stem at the top of the previous page. If not highlighted, it can be missed.
Show working each time even if it is just a simple equation with data from the questions.	An incorrect answer without any working gets zero marks, even if the mistake may be obvious, e.g. forgetting to convert cm to m.
Numerical answers: write in decimal or standard form.	Fractions or expressions may be seen as unfinished calculations.
Numerical answer: Make the digits clear and distinct. Make the location of the decimal point obvious.	Don't confuse 1 and 7, 5, 6 and 8. Is the answer 570 or 61.0?
Written response: Answer in point form. Include at least as many points as the marks for the question	Avoids repetition, and contradiction, Encourages a logical answer.
Written response: always include a diagram, especially when one is asked for.	Diagrams can effectively convey important information very quickly.
Units: Always check for non –SI units, such as cm, min, etc.	Convert to correct form before calculation.
Graphs: Always check the axes. Are the units kilo ...? is the scale logarithmic?	Most graphs have units with prefixes, some graphs use logarithmic scales
Multiple choice: If unsure, eliminate obvious wrong answers and make a calculated guess	Probability of 1 in 2 is better than 1 in 4. Note: "one or more" can be just one answer, even for a two mark question.
Don't look for complexities in the question. Assume the simplest explanation.	Looking for hidden meanings is likely to lead to choosing the incorrect answer.