Part III

Resources

Chapter 1

University admissions exam advice

1.0.1 Overview

- PAT is the exam used at Oxford for those who want to apply for Physics and Philosophy.
- It is a two-hour test that examines your ability on maths and physics topics. The topics in which they assess are "core" topics, the topics that are essential building blocks for learning maths and physics. These are very much like the topics we study at COMPOS. The current PAT syllabus currently examines: elementary mathematics, algebra, calculus, mechanics, waves and optics, electricity and magnetism, and the natural world.

1.0.2 Advice

PAT provides the following advice:

Example (PAT Advice).

- "Look over a range of **past papers** to help to familiarise you with the format of the test and the content covered. We also publish reports for each test; reports contain information such as the average mark on the paper and the mark students needed to achieve an interview. Do not expect to get all of it correct – most years the average is 50-60%".

  The main comment to take away here is that past papers are an important part of preparing for the PAT exam. Past papers in general are an important part of the revision process, from GCSE to Uni. They serve as an excellent example of applying the knowledge that you have learned during your revision phase. You first learn the physics through solving problems, and then you have a chance to apply the skills learned in the exam.

- "Familiarise yourself with the syllabus. The material is aimed at AS level maths and physics plus knowledge of material covered at GCSE. However we cannot guarantee when the material will be covered in your school so you might find you need to teach yourself a few topics before the exam."

  *Have a read through the **syllabus** in detail. To familiarise yourself with the syllabus, read some of your notes from your A-Level books, COMPOS guidebook, COMPOS assignments, and have a go at redoing some problems for understanding, to ensure the concepts are retained.*

- "Get practice doing some **problem solving**/hard physics questions which are not A level questions. It is advisable to do questions from a range of other sources, not just A level type questions, which can be more structured in nature than the PAT. See our page on useful websites and resources for the PAT."

  COMPOS is a really good resource for this! We will do lots of problems which involve going beyond the spec. Revisiting some of these problems in this guidebook, and practicing some questions using the resources outlined in section 1.0.3 is a great way to go beyond your A-Level spec.

- "Try doing some questions under **timed conditions**. One of the things which students who have taken the test say is hard is the number of questions you need to do in only 2 hours. Practising some questions under timed conditions near the date of the exam will mean you are more likely to get to the end of the paper."

  Sorting out your exam technique is important for PAT and admissions tests. Often when I start off preparing for exams, I use the papers as a tool to carry on learning the content. As I do more, the quicker I get and I start to focus on timing on top of grasping the content. Learning the style of the papers is important, as the questions you do are likely to be similar to the questions seen in the real thing – so getting a good technique together is key.

1.0.3 PAT resources

- COMPOS problems: great resource to have to answer questions in bulk, in relation to core syllabus material.
- Isaac Physics: lots of problems to solve on core Syllabus material, including some problems that bridge the gap between A-Level and University content.
- British Physics Olympiad: I recommend the question bank resource they have, I use it often to prepare questions for tutorials.
- PhysicsLab - "Next Time": contains conceptual physics based questions, quite useful for interview prep!