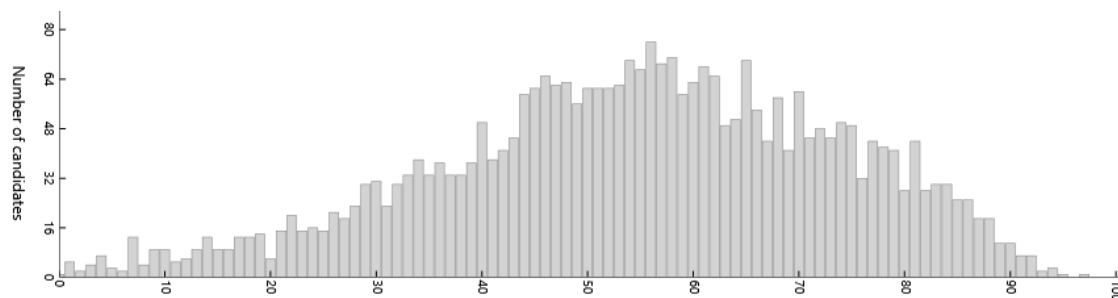




Summary report of the 2018 ATAR course examination: Physics

Year	Number who sat	Number of absentees
2018	3165	35
2017	3304	33
2016	3493	53

Examination score distribution–Written



Summary

This appeared to be a more difficult paper than last year with a mean mark of 54.50% (57.77% in 2017 and 61.8% in 2016) and scores ranged from 96.70% to 0.56%. Interestingly, the average for Section One was 57.64% compared with 50.15% in 2017 and the average for Section Three was 51% compared with 50.88% in 2017. The average for Section Two was 54.29% compared to 63.35% in 2017.

Attempted by 3165 candidates Mean 54.50% Max 96.70% Min 0.00%

Section means were:

Section One: Short response	Mean 57.64%		
Attempted by 3161 candidates	Mean 17.29(/30)	Max 30.00	Min 0.00
Section Two: Problem-solving	Mean 54.29%		
Attempted by 3162 candidates	Mean 27.15(/50)	Max 48.88	Min 0.00
Section Three: Comprehension	Mean 51.00%		
Attempted by 3131 candidates	Mean 10.20(/20)	Max 20.00	Min 0.00

General comments

This appeared to be a more difficult paper than last year with a mean which was 3.27% lower than 2017, which appears contradictory to feedback from teachers and candidates that indicated it was a fair examination. There was a slightly greater emphasis on Unit 4, which covers more difficult aspects of the course, as well as more explanation questions which candidates also find difficult to answer. These two aspects could explain the difference in mean scores between 2018 and 2017.

The paper was well balanced with each section having question parts which were more discriminating and challenging while others were straightforward and accessible to most candidates.

Advice for candidates

- When making calculations and rearranging equations use a scientific calculator that solves equations. Some calculators do not need the equation rearranged.
- Use a diagram to illustrate how you are working the question (e.g. clearly point out where the pivot point you are using is located).
- Logically setting out your work is very important when trying to obtain marks for working or explanations.
- When a question indicates that you need to use the graph to gain an answer, then you must clearly show how you used the graph (e.g. construction lines to show how to calculate the gradient).
- Conversion of units.

Advice for teachers

- Continue emphasis on using diagrams and explicitly stating known information before choosing equations/formulae.
- Often the explanation questions in Section Three would be left blank. This appears to be due to a lack of enthusiasm/confidence rather than a lack of time as it also occurred throughout the examination.
- One trend appears to be a steady decline in algebraic skills. Students should practice questions that require transposing equations to find the unknown variable (e.g. convert $v = s/t$ to find t).
- Ensure students practise using a scientific calculator that solves equations. Some of these do not need the equation rearranged. This means teachers can concentrate on the physics and not the algebra.
- Teach students to logically order answers to questions that require explanations.
- Drawing field diagrams needs more emphasis.

Comments on specific sections and questions

The feedback from teachers and candidates was positive with the view that it was a fair paper. It appears that candidates felt more comfortable answering calculation style questions.

Section One: Short response (30 Marks)

This was the best answered section with a mean of 57.64%. Questions appeared to be accessible and candidates responded positively. A common theme was that diagrams are often poorly used, or not used at all.

Section Two: Problem-solving (50 Marks)

A mean of 54.29% suggests that 'problem solving' is a difficult section. Questions involving explanations continue to be poorly done. Lack of a logical structure appears to be an issue. Using and solving quadratic equations also continues to create issues. Using a graph to determine information still presents difficulty for many candidates.

Section Three: Comprehension (20 Marks)

The low mean of 51% for Section Three is indicative of many candidates' inability to construct logical arguments.