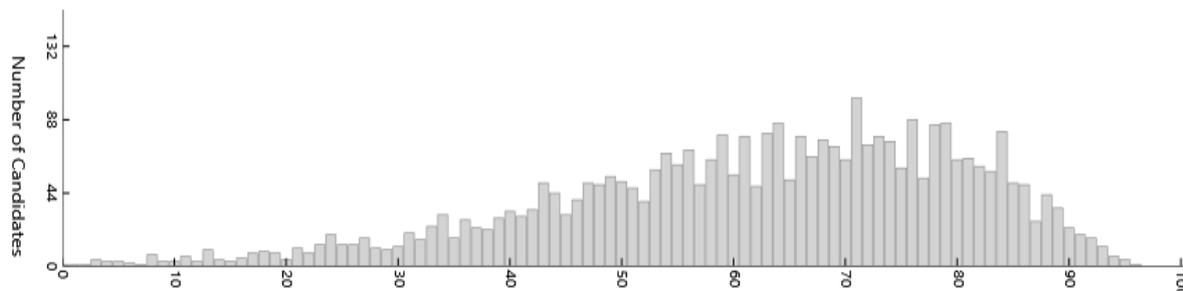Government of **Western Australia**
School Curriculum and Standards Authority

Summary report of the 2016 ATAR course examination:
Physics

Year	Number who sat	Number of absentees
2016	3493	53

Examination score distribution

Summary

The written examination consisted of three sections, with candidates being required to attempt all questions. The mean of the paper was slightly higher at 61.85% when compared to last year's mean of 60.78%. The spread of marks ranged from 1.11% to 95.28% and the standard deviation was 18.28%. The last few questions of the paper had a higher proportion of non-attempts, indicating that time could have been a factor, although this was also the most difficult of the sections. Anecdotally it was reported that stronger candidates completed the examination with time to spare.

Section means were:
Section One: Short response   Mean 20.14(/30)   Max 30.00   Min 0.56
Section Two: Problem-solving   Mean 30.73(/50)   Max 48.61   Min 0.28
Section Three: Comprehension   Mean 11.10(/20)   Max 20.00   Min 0.00

General comments
There was an overall balance of questions from the syllabus, with candidates demonstrating a sound understanding of the content, including the new syllabus content.

Advice for candidates
- As legibility is important for awarding marks for working, you need to organise your responses in a way that can be followed, using the answer boxes provided.
- You need to practise vector diagrams, sketching free body and field diagrams as well as understanding what each part represents.
- As questions are often asked in an unfamiliar context, but always relating to the syllabus, there is no need to deviate in your answers.
- Descriptive terminology is important, e.g. 'the spectrum' is not the same as 'line absorption spectrum'.
- When asked to show how to arrive at a calculated value or derive a relationship, if you arrive at a different value, your workings may have gone awry.

Advice for teachers
- Students should practise drawing diagrams and explaining what they mean, rather than just learning the rules of drawing them, e.g. fields, as well as in free body diagrams and static force situations.
- Students did not appear to have a firm grasp on which notations to use in the relativity question, often arriving at a nonsense answer in the context of the question.
- Many easy marks were lost through the incorrect use of significant figures. There are clear indications in the paper where marks are awarded for significant figures (as well as units) and students should use these guides.

Comments on specific sections and questions
Section One: Short response
Attempted by 3491 candidates   Mean 20.14(/30)   Max 30.00   Min 0.56

This was the easiest section of the paper. Questions were generally organised in increasing difficulty, albeit with a few of the items surprisingly difficult.

Section Two: Problem-solving
Attempted by 3489 candidates   Mean 30.73(/50)   Max 48.61   Min 0.28

Section Three: Comprehension
Attempted by 3466 candidates   Mean 11.10(/20)   Max 20.00   Min 0.00

This section had the lowest mean and also lower attempt rates towards the last few questions. This could be put down partially to the greater difficulty of the questions, though time could have been a factor for those leaving questions blank. Anecdotal evidence seems to indicate candidates, even very able ones, had difficulty with the articles and interpreting them.