Scholarship

2013 Assessment Report

Physics

SCHOLARSHIP WITH OUTSTANDING PERFORMANCE

Candidates who were awarded Scholarship with Outstanding Performance typically:

- provided well-structured answers with a logical progression of ideas
- were concise in their description of their solution
- identified any assumptions, simplifications or other processes used to discuss the validity and reasonableness of their solution
- used diagrams to help solve and describe their solutions
- were able to use multiple physics concepts correctly to answer questions
- showed an ability to plan their answer to difficult problems that required multiple steps
- used physical principles before using mathematics to solve problems
- explained their answer to the problem using relevant and clearly stated concepts with succinct and appropriate language.

SCHOLARSHIP

Candidates who were awarded Scholarship but not Scholarship with Outstanding Performance typically:

- showed good familiarity with most of the areas of physics covered in the paper
- were able to clearly explain the meaning of important historical physics results
- knew how to use basic physics concepts correctly
- were able to correctly apply key physics concepts to moderately complex problems
- showed good ability to manipulate algebraic expressions
- explained their answer to the problem using relevant and clearly stated concepts and appropriate language.

OTHER CANDIDATES

Candidates who were not awarded Scholarship or Scholarship with Outstanding Performance typically:

- showed a lack of familiarity with one or more major areas of physics covered in the paper, for example, electricity and modern physics
- had a confused understanding of how to explain important physics results
- used physics concepts that were not relevant to solving the problem or answering the question
- had difficulty in mathematically modelling the physical principles they were using to solve the problem
- did not consider the feasibility of their answers.

OTHER COMMENTS

Most candidates made a serious attempt at this examination but many found a number of the questions particularly challenging. This year's examination only included five questions compared to the six questions asked in previous years. There was substantial evidence that candidates had ample time to complete the examination. It is worthy of note that a large numbers of candidates left the examination within a relatively short period of time. Successful candidates clearly had appropriate knowledge of physics and were able to apply their knowledge in a range of contexts. The less successful candidates had significant gaps in their conceptual understanding and physics knowledge, and were unable to provide responses to all questions. The top ten candidates showed considerable physical understanding, writing clear and insightful answers.