

PHYSICS

PHY415115

Part **1** Newtonian Physics

Pages	12
Questions	6
Information Sheet	1

Reading time: 15 minutes – you may begin writing during this time

Suggested working time: 45 minutes

Instructions

- Attempt **all** questions and **all** parts within each question.
- Write your answers in the spaces provided in this exam paper.
 - Spare diagrams have been provided at the end of the exam booklet.
Indicate in the box provided if you have used the spare diagrams.
- A TASC approved scientific calculator can be used throughout the exam.
 - Show your workings in answers to numerical questions. No marks can be given for incorrect answers unless they are accompanied by details of the working.
 - The appropriate units must be included.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 5 identify and apply principles of Newtonian mechanics including gravitational fields.

Marker use

C5

40

Guide to Exam Structure

	Questions available	How many questions to answer	Suggested working time	Marks available
Part 1	6	6	45 minutes	40 marks
Part 2	5	5	45 minutes	40 marks
Part 3	6	6	45 minutes	40 marks
Part 4	5	5	45 minutes	40 marks
Totals	22	22	180 minutes (3 hours)	160

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Part **2** Electromagnetism

Pages	16
Questions	5
Information Sheet	1

Suggested working time: 45 minutes

Instructions

- Attempt **all** questions and **all** parts within each question.
- Write your answers in the spaces provided in this exam paper.
 - Spare diagrams have been provided at the end of the exam booklet.
Indicate in the box provided if you have used the spare diagrams.
- A TASC approved scientific calculator can be used throughout the exam.
 - Show your workings in answers to numerical questions. No marks can be given for incorrect answers unless they are accompanied by details of the working.
 - The appropriate units must be included.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 6 identify and apply principles and theories of electricity and magnetism.

Marker use	
C6	40

Guide to Exam Structure

	Questions available	How many questions to answer	Suggested working time	Marks available
Part 1	6	6	45 minutes	40 marks
Part 2	5	5	45 minutes	40 marks
Part 3	6	6	45 minutes	40 marks
Part 4	5	5	45 minutes	40 marks
Totals	22	22	180 minutes (3 hours)	160

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Part **3** Wave Motion

Pages	16
Questions	6
Information Sheet	1

Suggested working time: 45 minutes

Instructions

- Attempt **all** questions and **all** parts within each question.
- Write your answers in the spaces provided in this exam paper.
 - Spare diagrams have been provided at the end of the exam booklet.
Indicate in the box provided if you have used the spare diagrams.
- A TASC approved scientific calculator can be used throughout the exam.
 - Show your workings in answers to numerical questions. No marks can be given for incorrect answers unless they are accompanied by details of the working.
 - The appropriate units must be included.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 7 identify and apply general principles of wave motion.

Marker use	
C7	40

Guide to Exam Structure

	Questions available	How many questions to answer	Suggested working time	Marks available
Part 1	6	6	45 minutes	40 marks
Part 2	5	5	45 minutes	40 marks
Part 3	6	6	45 minutes	40 marks
Part 4	5	5	45 minutes	40 marks
Totals	22	22	180 minutes (3 hours)	160

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Part **4** Twentieth Century

Pages	16
Questions	5
Information Sheet	1

Suggested working time: 45 minutes

Instructions

- Attempt **all** questions and **all** parts within each question.
- Write your answers in the spaces provided in this exam paper.
 - Spare diagrams have been provided at the end of the exam booklet.
Indicate in the box provided if you have used the spare diagrams.
- A TASC approved scientific calculator can be used throughout the exam.
 - Show your workings in answers to numerical questions. No marks can be given for incorrect answers unless they are accompanied by details of the working.
 - The appropriate units must be included.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 8 identify and apply principles of the wave-particle nature of light, atomic and nuclear physics and models of the nucleus and nuclear processes.

Marker Use	
C8	40

Guide to Exam Structure

	Questions available	How many questions to answer	Suggested working time	Marks available
Part 1	6	6	45 minutes	40 marks
Part 2	5	5	45 minutes	40 marks
Part 3	6	6	45 minutes	40 marks
Part 4	5	5	45 minutes	40 marks
Totals	22	22	180 minutes (3 hours)	160