

Advance information June 2022

GCSE Physics (8463)

Version 1.0

Because of the ongoing impacts of the Coronavirus (COVID-19) pandemic, we are providing advance information on the focus of June 2022 exams to help students revise.

This is the advance information for GCSE Physics (8463).

Information

- The format/structure of the papers remains unchanged.
- This advance information covers all examined components.
- For each paper the list shows the major focus of the content of the exam.
- Each paper may cover some, or all, of the content in the listed topic.
- Another list shows which required practical activities will be assessed.
- Topics **not** assessed either directly or through 'linked' content have also been listed.
- The information is presented in specification order and not in question order.
- Assessment of practical skills, maths skills, and Working Scientifically skills will occur throughout all the papers.
- It is **not** permitted to take this advance information into the exam.

Advice

- It is advised that teaching and learning should still cover the entire subject content in the specification, so that students are as well prepared as possible for progression to the next stage of their education.
- Topics not explicitly given in any list may appear in low tariff questions or via 'linked' questions. Linked questions are those that bring together knowledge, skills and understanding from across the specification.
- Students will still be expected to apply their knowledge to unfamiliar contexts.

Focus of the June 2022 exam

Paper 1F 8463/1F

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes
- 4.1.2 Conservation and dissipation of energy
- 4.2.1 Current, potential difference and resistance
- 4.2.5 Static electricity
- 4.3.1 Changes of state and the particle model
- 4.3.2 Internal energy and energy transfers
- 4.4.2 Atoms and nuclear radiation

Required practical activities that **will be assessed**:

- Required practical activity 2: investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material.
- Required practical activity 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids. Volume should be determined from the dimensions of regularly shaped objects, and by a displacement technique for irregularly shaped objects. Dimensions to be measured using appropriate apparatus such as a ruler, micrometer or Vernier callipers.

Topics **not assessed** in this paper:

- 4.2.3 Domestic uses and safety
- 4.3.3 Particle model and pressure
- 4.4.1 Atoms and isotopes
- 4.4.4 Nuclear fission and fusion

Paper 1H 8463/1H

For this paper, the following list shows the major focus of the content of the exam:

- 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes
- 4.1.2 Conservation and dissipation of energy
- 4.2.4 Energy transfers
- 4.3.1 Changes of state and the particle model
- 4.3.2 Internal energy and energy transfers

Required practical activities that **will be assessed**:

- Required practical activity 2: investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material.
- Required practical activity 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids. Volume should be determined from the dimensions of regularly shaped objects, and by a displacement technique for irregularly shaped objects. Dimensions to be measured using appropriate apparatus such as a ruler, micrometer or Vernier callipers.

Topics **not assessed** in this paper:

- 4.2.1 Current, potential difference and resistance
- 4.2.2 Series and parallel circuits
- 4.2.3 Domestic uses and safety
- 4.3.3 Particle model and pressure
- 4.4.1 Atoms and isotopes
- 4.4.3 Hazards and uses of radioactive emissions and of background radiation
- 4.4.4 Nuclear fission and fusion

Paper 2F 8463/2F

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.1 Forces and their interactions
- 4.5.2 Work done and energy transfer
- 4.5.6.1 Describing motion along a line
- 4.6.1 Waves in air, fluids and solids
- 4.6.2 Electromagnetic waves
- 4.8.1 Solar system; stability of orbital motions; satellites

Required practical activity that **will be assessed**:

- Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances.

Topics **not assessed** in this paper:

- 4.5.4 Moments, levers and gears
- 4.5.6.2 Forces, accelerations and Newton's Laws of motion
- 4.5.6.3 Forces and braking
- 4.6.3 Black body radiation
- 4.8.2 Red-shift

Paper 2H 8463/2H

For this paper, the following list shows the major focus of the content of the exam:

- 4.5.1 Forces and their interactions
- 4.5.2 Work done and energy transfer
- 4.5.3 Forces and elasticity
- 4.5.5 Pressure and pressure differences in fluids
- 4.5.6.1 Describing motion along a line
- 4.5.7 Momentum
- 4.6.1 Waves in air, fluids and solids
- 4.8.1 Solar system; stability of orbital motions; satellites
- 4.8.2 Red-shift

Required practical activity that **will be assessed**:

- Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances.

Topics **not assessed** in this paper:

- 4.5.4 Moments, levers and gears
- 4.6.2 Electromagnetic waves
- 4.6.3 Black body radiation
- 4.7.1 Permanent and induced magnetism, magnetic forces and fields

END OF ADVANCE INFORMATION