Advance information June 2022

GCSE Biology (8461)

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 Biology (8461).

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.

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Focus of the June 2022 exam

Paper 1F 8461/1F

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

- 4.1.1 Cell structure
- 4.1.3 Transport in cells
- 4.2.2 Animal tissues, organs and organ systems
- 4.3.1 Communicable diseases
- 4.4.1 Photosynthesis

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

- Required practical activity 1: how a light microscope is used to observe plant cells.
- Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.
- Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.
- Required practical activity 6: investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.

Topics **not assessed** in this paper:

- 4.1.1.4 Cell differentiation
- 4.2.1 Principles of organisation
- 4.2.2.3 Blood
- 4.2.2.7 Cancer
- 4.3.1.5 Protist diseases
- 4.4.1.3 Uses of glucose from photosynthesis
- 4.4.2.1 Aerobic and anaerobic respiration
- 4.4.2.2 Response to exercise
- 4.4.2.3 Metabolism

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Paper 1H 8461/1H

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

- 4.1.1 Cell structure
- 4.1.3 Transport in cells
- 4.2.2 Animal tissues, organs and organ systems
- 4.2.3 Plant tissues, organs and systems
- 4.3.1 Communicable diseases
- 4.3.2 Monoclonal antibodies

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

- Required practical activity 1: use a light microscope to observe plant cells.
- Required practical activity 3: investigate the effect of a range of concentrations of salt solution on the mass of plant tissue.
- Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins.

Topics **not assessed** in this paper:

- 4.2.2.3 Blood
- 4.2.2.7 Cancer
- 4.3.1.8 Antibiotics and pain killers
- 4.3.1.9 Discovery and development of drugs
- 4.4.2.2 Response to exercise

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Paper 2F 8461/2F

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

- 4.5.2 The human nervous system
- 4.5.3 Hormonal control in humans
- 4.5.4 Plant hormones
- 4.6.1 Reproduction
- 4.6.3 The development of understanding of genetics and evolution

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

- Required practical activity 7: carry out an investigation into human reaction times.
- Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.
- Required practical activity 9: measure the population size of a common species in a habitat.

Topics **not assessed** in this paper:

- 4.5.2.2 The brain
- 4.5.2.3 The eye
- 4.5.3.3 Maintaining water and nitrogen balance in the body
- 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction
- 4.6.1.5 DNA structure
- 4.6.1.8 Sex determination
- 4.6.2 Variation and evolution
- 4.6.3.1 Theory of evolution
- 4.6.3.2 Speciation
- 4.6.3.3 The understanding of genetics
- 4.6.3.7 Resistant bacteria
- 4.7.1.4 Adaptations
- 4.7.2.2 How materials are cycled
- 4.7.2.3 Decomposition
- 4.7.3.1 Biodiversity
- 4.7.3.3 Land use
- 4.7.3.4 Deforestation
- 4.7.3.5 Global warming
- 4.7.3.6 Maintaining biodiversity
- 4.7.4 Trophic levels in an ecosystem
- 4.7.5 Food production

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Paper 2H 8461/2H

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

- 4.5.2 The human nervous system
- 4.5.3 Hormonal control in humans
- 4.5.4 Plant hormones
- 4.6.1 Reproduction
- 4.7.2 Organisation of an ecosystem

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

- Required practical activity 8: investigate the effect of light on the growth of newly germinated seedlings.
- Required practical activity 9: measure the population size of a common species in a habitat.

Topics **not assessed** in this paper:

- 4.5.2.1 Structure and function
- 4.5.2.2 The brain
- 4.5.2.3 The eye
- 4.5.3.4 Hormones in human reproduction
- 4.5.3.5 Contraception
- 4.5.3.6 The use of hormones to treat infertility
- 4.5.3.7 Negative feedback
- 4.5.4.2 Use of plant hormones
- 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction
- 4.6.1.8 Sex determination
- 4.6.2 Variation and evolution
- 4.6.3 The development of understanding of genetics and evolution
- 4.6.4 Classification of living organisms
- 4.7.1.4 Adaptations
- 4.7.2.4 Impact of environmental change
- 4.7.3.1 Biodiversity
- 4.7.3.4 Deforestation
- 4.7.3.6 Maintaining biodiversity
- 4.7.4.1 Trophic levels
- 4.7.4.2 Pyramids of biomass
- 4.7.5.3 Sustainable fisheries
- 4.7.5.4 Role of biotechnology

END OF ADVANCE INFORMATION

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