

COMBINED SCIENCE SYLLABUS

SECTION 1: BIOLOGY

B 1 Keeping Healthy

B 1.1 Diet and exercise

B 1.2 How our bodies defend themselves against infectious diseases

B 2 Nerves and Hormones

B 2.1 The nervous system

B 2.2 Control in the human body

B 3 Control in plants

B 4 The use and abuse of drugs

B 4.1 Drugs and Clinical trials

B 4.2 Abuse of drugs

B 5 Interdependence and Adaptation

B 5.1 Adaptations

B 5.2 Interdependence

B 6 Environmental Change

B 6.1 Effect of environment on distribution

B 6.2 Effect of humans on environment

B 7 Energy in Biomass

B 8 Waste materials from plants and animals

B 8.1 Decay processes

B 8.2 The carbon cycle

B 9 Genetic Variation and its Control

B 9.1 Why organisms are different

B 9.2 Inheritance

B 10 Reproduction

B 10.1 Sexual reproduction

B 10.2 Asexual reproduction

B 11 Evolution

SECTION 2: CHEMISTRY

C 1 The fundamental ideas in chemistry

- C 1.1 Atoms
- C 1.2 The periodic table
- C 1.3 Chemical reactions

C 2 Limestone and building materials

- C 2.1 Calcium carbonate
- C 2.2 Products from limestone

C 3 Metals and their uses

- C 3.1 Extracting metals
- C3.2 Reactivity series

C 4 Alloys

- C 4.1 Steel and other alloys
- C 4.2 Properties and uses of metals

C 5 Crude oil and fuels

- C 5.1 Crude oil
- C 5.2 Fractional distillation
- C 5.3 Hydrocarbons

C 6 Hydrocarbon fuels

- C 6.1 Other useful substances from crude oil

C 7 Obtaining useful substances from crude oil

- C 7.1 Cracking

C 8 Polymers and Ethanol

- C 8.1 Polymers and plastics
- C 8.2 Ethanol

C 9 Plant oils and their uses

- C 9.1 Vegetable oils
- C 9.2 Emulsions
- C 9.3 Saturated and unsaturated oils

C 10 Changes in the Earth and its Atmosphere

- C 10.1 The Earth's crust
- C 10.2 The Earth's atmosphere

SECTION 3: PHYSICS

P 1: The transfer of energy by heating processes

P 1.1 Infrared radiation

P 1.2 Kinetic theory

P 1.3 Energy transfer by heating

P 1.4 Heating and insulating buildings

P 1.5 Factors that affect the rate at which that energy is transferred

P 2 Energy and Efficiency

P 2.1 Energy transfers and efficiency

P 3 The usefulness of electrical appliances

P 3.1 Transferring electrical energy

P 4 Methods we use to generate electricity

P 4.1 Generating electricity

P 4.2 The National Grid

P 5 The use of waves for communication

P 5.1 General properties of waves

P 5.2 Reflection

P 5.3 Sound

P 6 Providing evidence that the universe is expanding

P 6.1 Red-shift

P 6.2 Big bang



Mr Roger Freestone
Partner and Chief Examiner

Advice for Combined Science examination

The science exam has been created to look at your knowledge and its application to certain scenarios. You may wish to sit the exam without the home study.

Please consider the following tips when you get to the exam.

- Read the question carefully!
- There will be some simple recall questions but some will be asking you to interpret graphs/charts/tables or examine the results of an experiment.
- Always check how many marks are allocated to the question this is a good indication of how many points you need to include e.g. 2 marks usually means 2.
- Provide clear and concise answers.
- You must use the correct biological language and terminology.
- Watch your spelling as some words misspelt could mean something completely different, e.g. Glycogen and Glucagon.
- If the question is asking you to **describe** something then you need to just say what is happening in the scenario. However, if the question is asking you to **explain** then you must give the biological reasoning behind the process.
- If you have to **suggest** a reason for something then you must apply your biological reasoning and give a logical suggestion.
- If you are asked to show any working then you must as you may lose marks.
- Please do not repeat what you have written. This will not give any extra marks but will waste precious time.
- Some questions may also test the quality of your written communication, so watch out for those long answer questions.



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Grades

Grade 7 85%

Grade 6 75%

Grade 5 65%

Grade 4 55%