

# Science Combined Syllabus (Higher Paper)

## 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 6.1 Red-shift

P 6.2 Big bang