

Advance information

Highest marks at top of list

Paper 1

2.3 Transport across cell membranes (including RP 3)
2.1 Cell Structure
4.4 Genetic diversity and adaptation (including RP 6)
3.2 Gas exchange
1.4 Proteins (including RP 1)
1.2 Carbohydrates
3.4 Mass transport
4.6 Biodiversity within a community

Paper 2

6.4 Homeostasis is the maintenance of a stable internal environment
5.2 Respiration (including RP 9)
6.2 Nervous coordination
5.3 Energy and ecosystems
5.4 Nutrient cycles
7.1 Inheritance
8.2 Gene expression is controlled by a number of features
5.1 Photosynthesis

Paper 3

5.1. Photosynthesis
2.2 All cells arise from other cells (including RP 2)
8.4 Gene technologies allow the study and alteration of gene function allowing a better understanding of organism function and the design of new industrial and medical processes.
6.2 Nervous coordination
3.4 Mass transport
4.2 DNA and protein synthesis
1.4 Proteins
6.1 Stimuli, both internal and external, are detected and lead to a response.

Required Practicals

1. Investigation into the effect of a named variable on the rate of an enzyme-controlled reaction ([Paper 1](#))
2. Preparation of stained squashes of cells from plant root tips; set-up and use of an optical microscope to identify the stages of mitosis in these stained squashes and calculation of a mitotic index ([Paper 3](#))
3. Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue ([Paper 1](#))
6. Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth ([Paper 1](#))
9. Investigation into the effect of a named variable on the rate of respiration of cultures of single-celled organisms ([Paper 2](#))

Important to note...

- ‘Topics not explicitly given in the list **may appear in multiple choice items, low tariff questions or via synopticity**’
- ‘Assessment of **practical skills and maths skills** occurs throughout the **three papers**’
- ‘Students and teachers should consider **how to focus their revision of other non-listed parts of the specification, which may be tested in lower mark questions**’
- ‘Students will still be expected to **apply their knowledge to unfamiliar contexts**’
- ‘Students will be expected to draw on **knowledge, skills and understanding from across the specification when responding to synoptic questions**’