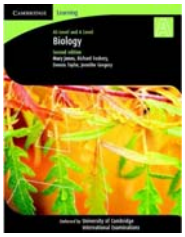
Introduction to AICE Biology 9700

Understanding the Syllabus

http://mrskingsbioweb.com/AICE%20Biology/9700_y12_sy.pdf

AS Level Candidates

- A Cell Structure (Ch 1)
- B Biological Molecules (Ch 2)
- C Enzymes (Ch 3)
- D Cell Membranes and Transport (Ch 4)
- E Cell and Nuclear Division (Ch 6)
- F Genetic Control (Ch 5)
- G Transport (Ch 10, 8 and 9)
- H Gas Exchange (Ch 11 and 12)
- I Infectious Disease (Ch 13)
- J Immunity (Ch 14)
- K Ecology (Ch 7)

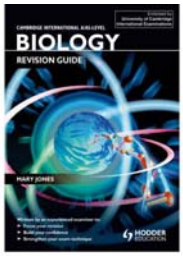


*First half of AICE textbook

A Level candidates will study and be assessed on all sections, A to U of syllabus (entire book).

Revision Guide/Study Aid

- Valuable resource
- Topics you need to know to do well on papers 1, 2 and 3 at the end of the year



http://mrskingsbioweb.com/CambridgeBiology.html

Modern biological sciences use many concepts from the physical sciences. By the end of the course, candidates should therefore have enough knowledge of the following topics to help them understand biological systems.

- The electromagnetic spectrum
- Energy changes (potential energy, activation energy and chemical bond energy)
- Molecules, atoms, ions and electrons
- Concentration and molarity
- Acids, bases, pH and buffers
- Isotopes, including radioactive isotopes
- Oxidation and reduction
- Hydrolysis and condensation

No questions will be set directly on them

Sample Question (paper 2)

(d) Cholera tends to emerge as a risk to health following natural disasters. It is said that every death from cholera is a death that could have been prevented.

Explain how it is possible to reduce the number of deaths during a cholera epidemic in countries such as those in West Africa.

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Sample Graph

The results are shown in Fig. 2.2.

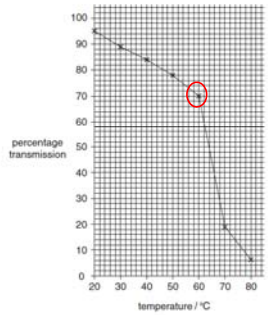

Fig. 2.2

Calculating Errors in Measurement

- **Measuring cylinders**
  Measuring cylinders are least accurate. This may not matter if another measurement is even less accurate, or if you want excess of a liquid. If the cylinder has graduations (marks) every 1 cm^3, then when you measure 10 cm^3 you can be sure you have more than 9.5 cm^3 but less than 10.5 cm^3. In this case your error is ±0.5 cm^3 in 10 cm^3, and the percentage error is 0.5/10 x 100 = 5%.

  If you had measured 50 cm^3 with the same measuring cylinder the error would have been 0.5/50 x 100 = 1% so the bigger the reading the smaller the percentage error.

  (The Nuffield Foundation, 2003)

Resources

Jones, et al. (2007). AS level and A level biology. Cambridge, UK: Cambridge University Press.

The Nuffield Foundation. (2003). *Re Act*. Retrieved July 26, 2011, from Nuffield Advanced Chemistry: http://www.chemistry-react.org/go/Tutorial/Tutorial_4428.html