

**Exemplar exam question – Option D**

- 1** Antiviral drugs are important in the control of HIV/AIDS.
- a** State **two** ways in which viruses differ from bacteria. [2]
- b** Explain **two** different ways in which antiviral drugs work. [2]
- c** Discuss **two** difficulties, other than economic and socio-cultural issues, associated with the treatment of AIDS. [2]

**Commentary**

**a** There are many differences that could be listed but it is important that a comparison is stated. Some examples are: [2]

- bacteria have a cell wall but viruses do not
- bacteria feed/excrete/grow/are living cells but viruses are not considered to be living cells
- viruses need a host cell in order to reproduce but bacteria are able to reproduce outside host cells.

The question includes the word ‘state’ and therefore this is all that must be done.

Note: it is unlikely that separate marks would be awarded for feed, excrete and grow as separate answers as they are all examples associated with the idea that bacteria are living but viruses are not. For the same reason, a separate mark may not be awarded for stating that bacteria are living if bacteria feed/excrete/grow has already been stated.

The statement that bacteria are larger than viruses is also usually accepted, although the largest viruses are larger than the smallest bacteria.

- b** The key points that are likely to score the marks here are any two of the following: [2]
- they alter the cell’s genetic material so that the virus is unable to use it to multiply
  - they inhibit enzyme activity within the host cell that is responsible for the formation of new viruses
  - they stop the viruses from infecting host cells by preventing them binding to the host cell surface.

Again, it can be seen that it is not necessary to write a great deal by way of explanation. In general the more that is written, the greater the probability of making contradictory points and losing the mark: the question can be answered using two bullet points.

- c** The main reasons that it is difficult to treat AIDS are:
- the virus is able to mutate rapidly [1]
- the virus uses many of the host cell’s processes and materials to replicate so it is difficult to target the virus without targeting the host cell as well. [1]

It is clear from the question that answers based on the cost of anti-retroviral drugs or use/non-use of condoms, etc. will not be accepted.