

AS Level Biology B

H022/02 Biology in depth

Question Set 4

1 Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*.

(a)* TB can be transmitted by droplet infection. It is also an opportunistic infection.

Outline the methods used to limit the transmission of TB and prevent opportunistic infection.

[6]

(b) Isoniazid is one of the antibiotics used to treat TB.

Isoniazid works by inhibiting the production of mycolic acid, a fatty acid required for the synthesis of some bacterial cell walls.

(i) Explain how isoniazid causes the death of *M. tuberculosis* cells.

[3]

(ii) Isoniazid kills bacterial cells but has no effect on human cells.

Explain why.

[1]

Total Marks for Question Set 4: 10



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