1) The minimum distance in terms of communication links between A and B is given by H(A, B).

The Hamming distance is defined for bit strings as the # of 1 bits in the xor between two bit strings (via. Wikipedia).

For example:

$$\left.\begin{matrix} A = 100 \\ B = 111 \end{matrix}\right\} = 100 \otimes 111 = 011 = 2$$

Because each bit represents a distance of one edge along a dimension, the number of 1's in the result is the distance.

IF two nodes share one or more axis they will have those bits in common, and therefore yield 0 bits in the result; else they will differ and yield 1 bits.

This is all that needs to be considered in lieu of the assumption of minimal and deterministic routing on p.67 of the text.