

State the advantages and disadvantages of the evolutionary model of software development. (8)

Is it more, or less, suitable than the waterfall model for safety-critical projects? (8)

If you were managing the evolution of a safety-critical product, what special steps would you take for risk reduction or due diligence reasons? (4)

Model answer

First part is bookwork - software evolution is often the only way to do things, because of changing requirements / environment / technology / product, even although it complicates management / testing / tools etc

Second part - can be more suitable as it takes many iterations + much testing to get MTBF down. Also, there is a lot of benefit to be had from regression testing. The complexity arises from the difficulty of maintaining the safety case & keeping it in synch with both the product and the environment

Third part - focus on the mechanics of the safety case