



(Voor Nederlands z.o.z.)

All five questions count equally.

1. According to Moore's law, the number of transistors on a chip doubles every 18 months. A Pentium 4 now has 40 million transistors with a 0.1 micron diameter. How large will the diameter of a transistors (in microns) be in microns in 3 years?
2. On computer 1, all instructions can be executed in 10 nsec. On computer 2, all instructions can be executed in 5 nsec. Can you state with certainty that computer 2 is faster than computer 1? Explain your answer.
3. Name and explain three principles of RISC design.
4. Draw a clocked D latch.
5. Explain how a master and a slave talk to each other over an asynchronous bus.